10 20 30 40 50 60 70 80 90 100 110 120
MILLIMETERS
MICROCOPY RESOLUTION TEST CHART
(ANSI and ISO TEST CHART No. 2)
1.0
2.8
2.5
3.2
2.2
3.6
2.0
4.0
1.1
1.8
1.25
1.4
1.6
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Thomas A. Edison Papers

A SELECTIVE MICROFILM EDITION

PART IV
(1899–1910)

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at
Rutgers, The State University
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START

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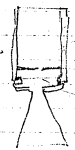
Notebook, PN-06-00-00

This undated pocket notebook was used by Edison, probably during 1906. It may have been used at his winter home in Fort Myers, Florida. Included are descriptions and lists of experiments to perform, including work on phonographs, storage battery components, electrical rectifiers, telephones, thermocouples, and "wireless." The entries contain Edison's speculations regarding magnetism, the chemical properties of various metals, and the nature of electricity. There are also notes on the "Edison effect" and on work by Michael I. Pupin and other scientists. Among the employees mentioned in relation to individual experiments are Charles Dally, Otto Groethe, Walter E. Holland, and Frederick P. Ott. The front cover is stamped "Ledger." The pages are unnumbered. Approximately 120 pages have been used.

It is probable that reversing how water and loose water in place in that straight part leading to funnel too at close chimney was length to form a Vortex

Perhaps a ~~cot~~ tube with diaphragm at bottom thin.



Dia chamber filled with Rosin & Iodine Colored iodine

glass piccolo produce Vortex

Rings more or just pressure to form Lens

---

or Battery phased by a thermo junction of Oxygen = K ions + Sulphide + K ions + Oxygen electrode nickel or both sides.

The temperature right is close at 7/8 + fall below running out nickel gas on side side least +-

---

If If ions are and when then really there is no generation in a battery, or of there is to at junction of ions + O of Nide

---

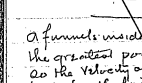
In a funnel to break up the rings use 1/4 inch screen make every 3 inches -

A B C D E F G H I J K L Mc M N O P Q R S T U V W Y Z

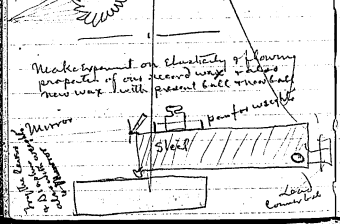
Try a funnel like drawing 3" extending out 1/2 inch —

Running fan out giving a Vortex to air

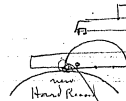
A funnel's inside surface should have the greatest possible friction so the Velocity of the wave slowed so by far the fastest in center in order to get that when it goes in almost at edge then when it goes in free air that a portion will be deflected laterally = this apparently is the secret of the funnel - perhaps that turned on threads like a screw towards nothing but wheels after the funnel for receiving a diameter of 2 or 3 or 4 inches or of wheels is not given the corrugation



Make experiment on elasticity & flowing properties of any record wax & shape new wax with present ball & wheel



when & when make at once



Diaphram 1.25 also 2" also 1.8" dia.

Steel 1/2 circle levers weight holding on Ka card adjusting & steel 0.03 dia — 3 to 1 drawing then 4 to 1 —

Try alloy & that will stand it bring to red hot or higher & drop in cold water. To put stamm in them notice if they flower or when flowers & if some except that don't flower do so when this treatment.

In trying magnet & alum in helping of alloys a new firing method that then nearly to melting point & drop in ice water see if they will then be magnetic & mean closed rings.

Make 1/4 inch Recording Ruffs then will cut a track 80/1000

Twice & sides well show Elegantly & Comprehensively the shape of the waves

Rod to shape Lever to tighten

Plate to tighten —

Cutting

C D E F G H I J K L Mc M N O P Q R S T U V W Y Z

Celluloid mica glass cell

Small Cathode 1/4 inch

3 or 4 inch anode + 1/2 or 1 or 2 or 3

plating solution — Rep Salts

heavy current — Dry Slides

for fluorescence from Rays

Coming from the small pole

chloride acetate — oxalate

+ Ferrocyanide Hydr — nitrate

platinum + gas time — there

certainly should be a tremendous

stress on small electrodes

in glass globe filled with

perfect vacuum, Elements or

X ray Cell — using photo

plate & slides & find fluorescence

perhaps tiny — should be very close but

not so close as cell — speak —

Precipitate Tungstate Ca with

1/2 % of all kinds impurities

— equals size of impurities

fluorescence

Tungsten dioxide of X

Stop stop

Stop stop

Put funnel on the

Have X closed at top with metals

delicate loose membrane — use

Chlorine Lycopodium, Carbonate, Iodine

Smoke, Chlorinous smoke — smoke

possibly ammonia smoke or Ammonia also

Try disc with .005 piece Pt between to stretch it to

limits of elasticity both ways

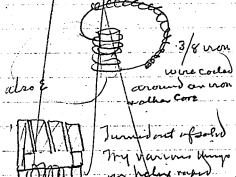
glass chin seemed at Cooler

Immediate return of the Mix product by the chemical Reg. process with Cane KOH, purpose = 1 part of 2 cell process of KOH, = use of Cane sugar KOH, Have made 0 of 4 gm of it – the results –
Try 3 more with Thermos not control with me
also other Mix products – see their color etc, properties – the results or Mix is not alive in battery

Edison effect
Try 2 in – 1 grid on center wire +

By making aluminum Cathode having pores and having Red dermal to penetration and then dissolve host, around in Sacrificial, the results and

see if Bing chally acts like a Rectifier with Palladium mandrill or alfin



Try various things on helix, repeat alternate 8

Condenser made of silver-plated Copper foil + Zinc or Al foil, see if by chemical action can get capacity down – for use of telephone modulation also Tesla

Wind a helix

send current with
way – diff in velocity will produce results
Try lief things – helix – use 38 wire –

Don't think Prop in thing right – winding of with field
Line Try telephone with unequals strings not in proportion the unequal – the directly tune to the
Condenser Capacity – the length of wire or chemical
gap in unequals etc – condenser pieces of wire
Can test Condenser – Knife in bridge by
Chemical action of Thermos – Acute may distill
Pages 10 way – line Condenser – Condenser
perhaps – better surface – Condenser – Line
may answer –

probably considerable amplitude is
lost to disappearance chain by flexing
the shaft – while testing the flexing
of lever test flexing of shaft +
also record work double –
Could stop flexing shaft by
mandrel rod + stop rod by
stiffer material or thicker. Wheel by
to increase volume to double it
have double pressure on Record
+ Mandrill – see what note
home shaft gives also record

Bunsen

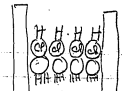
Lecture

Specific H. & known the highest, pt. Pb 0.0304,
30 times more
almost be inclined to expect little —
Paraphrase to Pb. the +1 Pb — cannot be free in
Combination in H_2O or OH.

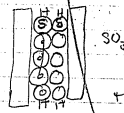
Intensely combustion for dilute orange Expect
Sulphur — Carbon — Expression blue
highly than any — potassium —

Light telephone (a piece rubber attached to
twice its length shortens 1/10 of the
length by a break of 50 - Cent

further thinking shows hydrate theory good
but Metals + Hydrogen of the molecule set
Numerous parallels with Electrolysis —
Series of metals centers being the position of
the radicals of a compound — the metals
+ Hydrogen / when a radical combines at one
End then on) metal at other limits a
tempo vibration — in fusion or kinesame
action takes place without water

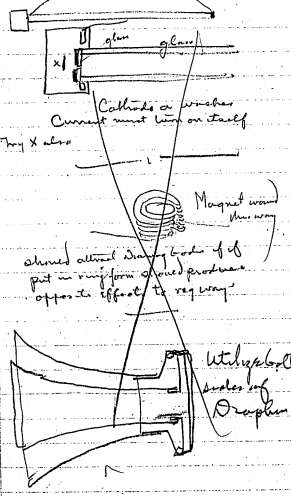


Vortexes so to speak
Radicals go one way
Metals the other —

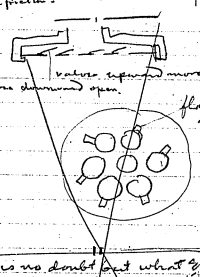


Possibly an anode made as a tube
1 foot long or a cathode, manhole
on outside, + float anode or cathode
might show something on the float
by blowing deposit

I J K L Mc M N O P Q R S T U V W Y Z



Pressure: Anthony explains it in Experiment Book. The bigger the pressure the smaller may be the valve. Hence at instant of mach dia + 2 lbs it can be 1/4 dia + 32 or perhaps 40 lbs pressure for valve problem.

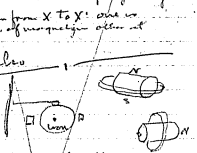


There is no doubt but what Emg action goes on in the pattern as probably increased by diminution by pressure. Variation in power of $NaOH$ bottle H_2 on discharge power $NaOH$ test T. fill with H_2O. If it leaves to dry out actually have gas content or change $NaOH$ leaves to get dry. Bigger the pattern probably have more H_2 + shell [illegible] that could be put [illegible] KOH wind up nothing. Check that imagined pressure or nothing. Check that imagined pressure or nothing. Kill action around help Cathode.

Hz at Conductivity from N to S in iron & all highly magnetized & weight

to low - better than from X to X' one w parallel to field of magnetization either at right angles.

Conductivity also



Magnetized across - the allowing set of freedom changed mechanically current also allowing

If magnetism of iron w a function of variable elastically make some CP CoFe Ni by rolling - by speed by flame - Simultaneously Magnetization - Co ought to move away

If Magnetic metals are so the strength proportional to the oxidizability then should be Mn Fe Co Ni in scale or of capable higher oxides than Scale is correct following up C Iron Scale is correct

Electrolytic series same

Ability to form Sulphides Ni Co Fe Mn the reverse

Solubility of chlorides Fe Ni Co Fe Mn

Next p

atomic weights Nearer equivalent labels,
Mn 53.90 Cr is 52.01 Va 51.25
Fe 55.91
Co 58.88 } some doubts about this -
Ni 57.93 }
Sort of proto ox in Nitly all -

If atomic weights is the reason the scale should be Vanadium Chromium Mn Fe Co Ni -
The difficulties of preparation in metallic form are only that scale alters - affinity of Oxy in proto oxide is common.

New Theory iron has the least resistance for E if all metals on a rise of full current showed have lower resistance for high frequency than Copper = its only on Circulating Current that it has higher resistance than Copper If we have induction Coil w the Copper Core there is focused but only to 120 of Copper. May the Cu Currents high rate to die out in second but if iron the focused Ckt is encompassing have less of first & gradually rises so low as greater than Copper.
or the diamagnetic of Copper is only slightly changed whereas iron diamagnetic is enormously changed
Lateral Theory Most probable - Dyamagnetic is a powerful Ext
Currents in iron are across the disk or molecules of Copper the currents are physical & around the disk of Cobalt enormous higher resistance, anything that will break up the Molecular orbit well

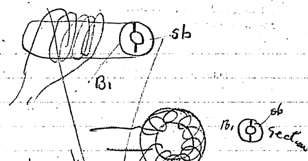
MC M N O P Q R S T U V W Y Z

make Iron Non mag — Mn & Ni do it
but if they happen to be magnetic metals
very little heat is given off by these molecular
circuits as their resistance is practically nothing
there may be no current at all, but a tendency
or stress, upon which work can be stored up
but they act like circuits. The work
stored is against Elasticity of some
kind in the molecule or distortion
of the Molecular Vibration altering
mean paths or orbits of circular

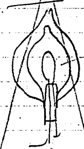
Rubber should act funny in a
helix —

any impurity in the iron will change
the converting power & magnetism —
for better or worse — I think Mn is
the most magnetic metal or the apex
of the group consisting of Ni Co Fe Mn
Cr & Vanadium Ni T Va at extremes
there should be found some alloy of
Mn which is better than iron —

Longitudinal Vibrations mechanically
excited along a magnet wire
should vary the magnetism & throw
currents into a secondary
Cold should increase Converting
power — X ray striking ends
should increase Converting
power
dissolving by acids or plating
one end of wire should draw oscillations
alternating into a secondary the
primary of which magnetizes
the iron — detect wireless
Resonance



should increase
Converting power
(i.e.) act like a relay to
rapid reversals from
action of currents [illegible]



N O P Q R S T U V W Y Z

a transformer under hydraulic pressure in oil should have a much higher Converting Capacity -

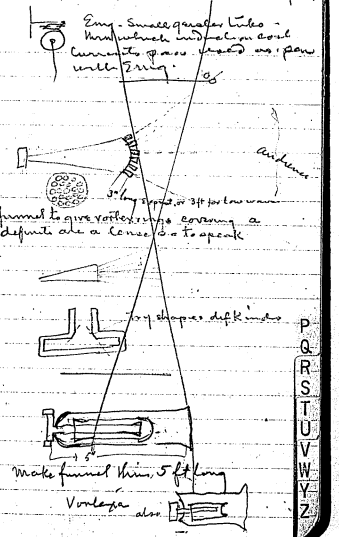
Converter about 1000 ampere 001 ohms resistance in Cold Salt water Shunt Compressor would give greater Capacity -

Measure Edison effect with Carbon and amp in lamp & galvanometer increasing Vac up to X ray vac tube & focus -
also Edison effect to other Globes wire but with platinum foil sealed on outside of Globe
Kept Cold or at temp lighting gives it -

The micro circuits or molecular circuits of iron in turning work against a new kind of Elasticity - material of the being Cohesion or physical & chemical it is against the uniformity passing in the Ether - The changes in dimensions of the iron by movement of the molecules Things moved there against Ether and this produces a chasm in the Ether of mag hindered the shape so Metamed the Ether chasm removes - we have a magnet as the Mag Could be demagnetized by waves thru a Vacuum. - This would imply that Everything is affected by the Ether but pressures unlike barometric pressures it is uniform throughout space or unequal strains is cause of fixed relative,

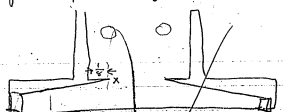
Possibly Sb mag make Cr or Vanad — Mag

Emy - Small gauge tubes - Mercury which induces an coil Currents pass proved as pass with Emy. 0.6



P Q R S T U V W X Y Z

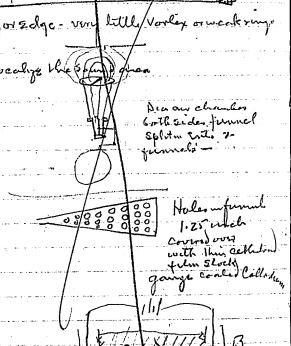
If vortex rings wants energy make speaker thus



Razor edge - very little vortex or weak rings

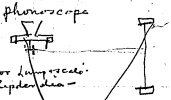
To localize this [illegible] place

Use air chamber both sides funnel split into 2 funnels —



See how long it takes current of 1 amp to phase letters on A also KOH + NaOH.

~~Sound~~ phonoscope



Mirror lamp scale. Reg Ripple line —

amplitude or minimum swing minimum strength was that recorded some note. also a scale.

Can then measure power if funnels of map out equipotential lines in a room —

Try greater electrolyte: 1/2 KOH, NaOH, 1 KOH in KOH + NaOH, in chg) Na 7 Fe

also discharge) Na 7 Fe always same cell — after charge which gives 85 amp off pull out + wipe quicker — soak 24 hours large quantity + see volume of [illegible] also with 20% KOH 10% KOH.

Use glass cell + after all mix come out that will — put in 200 mlg Sulphur — put in test to see if 5 blackness —

Set up 4 nickel tubes with Mallinckrodt sulph. iron + 250 mlg 5. also Dye with Brunolow. See how affects iron + [illegible]

R S T U V W Y Z

also Performs & put in + Reverse
second time changing KOH to elements
Sulphur acc of Sellers –

Reason why Superposition dont throw
sound waves into that there is no height
fixed mass, the compression is as close
to the source from that wave emanates
to any height, the pressure tending
to raise falls out at it rises minus
the distances around the Edges + so
no work is done on the diaphragm Except
what's done in non elasticity of
diaphragm.

Ferrous Sodium Sulfate was Reduced by
H mentioned by Shaffer – depth doubled increased
also without amplitude – for doses of oscillating
induction Coils –

Elec are waves in molecular orbits (communicate)
along wallet by compression or distortion
of orbits, orbits of cohesion so keep atoms
local moving always in the ether –
simple elastic wallet offer similar rest to
propagation of waves by distortion of orbit
Compound wallet offer enormous resistance
so much so that the wave cannot pass from
the local orbit at Boundary surface into
the other offer shrinking hence channeled system
of the wave to simple wallet, mass, V.

From in a large ether Stream wallet mass + extended
around the Universe – the atomic cohesion stress is
same as ether conduction but the wave is general
mass solution the current passing through
this directness measure + distance S –

There is no local ether action – yes
except one general action of the Universal
atmosphere limited by agitation –
Then Comes liquids there is Chemical atomic
action, then comes solids having atomic
action – Some groups are different
they have mass action

It's evident that the changing rate of $Ni(OH)_2$
diminishes very rapidly at a distance from the Contact
on account of the high resistance of $Ni.O_2$ –
+ good dielectric is essential
When the voltage at extremities of grown
reach a certain point no ionization Com
take place, Distribution is highly essential.

Capillarity so the damp when pack to 1/Cm
datum thus o pushes the previous pack

Have Hallowed when I reduce charge +
discharge 5601-2-3 at constant
Voltage, + compare thus on same
sheet when chg I also at Constant
amperes

In chg + battery the have Concentration
Voltage – gas voltage – Capillary Emf
Voltage – Against the Current,

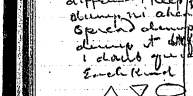
T
U
V
W
X
Y
Z

When get north get 1/4 inch glass tube + flake + NaOH feed + drop in about 20 times the ring then fill the whole + see which is bottom layer grain or flake – Vary dumping fingers until the mixed –

Impossible

also change Single paper to feed diff + keep flake constant of dumping in also Even + Column also Spread dumping out + then dump it differs + effect all in 1 flake you like – make groups

Each Kind



Interrupt feeding

pour NaOH thin polished roller to flake it so get it fall smaller flakes + also Convert flake if it fall too fast

Fusion of Calcium Carbide with only dropping pieces showed gas new research –

For fluorescence + giving light by Scratches, fused Diffication of metals,

Can crystalize under pressure by concentrated solution in one of U shaped sealed tube CaC Calcium crystals only on the other + electric current + to make hydrogen plat + Cu Zn or other polyatomic poles or Calcium Carbide in the CaC2 Can probably use a small U tube attached with dry air + air space so compressed in air serves as index of pressure –

What is principle dissolving Silicon Carbide by HF flu acid

Nickel drum plate Co polish Rotate with Cu solution – plate Nickel as thin as possible to – get Coherent sheet, by cooling out Cu see if can get transparent like in Vac –

see if Res thin wires of Iron in capillary

Kaulrausch method effected by Rays

V
W
Y
Z

Thermo cylinder

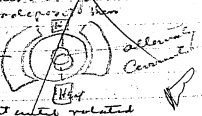
Combo wire placed with this without grounding the 13 is

14 inflash 12i in strips around cylinder of non fusible - grounding the other then flash say 36 i

then poles of Hot & Cold water or sediment heat + cool under -

for strengthening out very high frequency oscillation with Thermo Electric used galvanized Silver or aluminum metal or from the oxide only already by electric deposition from very aluminum Silver - C.P. materials

perhaps a thermo dynamo can be made without differential metals by crossing Cons of Cu & with Cu by Vac deposit or electro other metals fused to second electrode by electrodeposition then



no current until rotated

practically one use of another metal into make heat and unsew -

How much Zinc ox must be drawn off to raise the charging Voltage from 165 @ 170 to higher - Can they thus by pulling in Zinc O + sink 24 hours + Chge - see Curves - this will take off the impurities that raise Vol. Voltage

Either can prevent coming off from changing of amorph Sulphur to Rhombic Crystals -

to Vulcanize or sulphurize used Chl Sulphur, a double Sulphur unit to spare takes up 66% - use by on Copper for thermo dynamo

V
Z

Try Selenium & Tellurium for thermodynamo
also Selenium & Tellurium on cylinder
1st plating metal, Cu

Cu
S
Cold
Hot

This looks very promising

Dry Na_2O_3 : Cr_2O_3 : PbO_2

Try all quick strips with Se & Te between dif metals -

Selenium all only 0.001 thick. Force fed copper
Coated chrom with Selenium also if it alloys
Copper was not tried it will not alloy for annealing.

Try the metallic form of selenium for chrom recovering point -

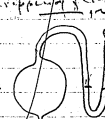
Tellurium Combines with Sulphur press H-S then Alkalies sol of a Tellurite - when melted
Exhibits metallic lustre -
Thermo dynamo -
Recovery point - Red phos

also metallic or rhombohedral phos by heating phos with Lead -
Hittorf Pogg Ann CXXVI 193-
its a better conductor than Red phos
also formed when phos is heated under pressure to 580 Cent.

Thermodynamo try phosphides

as was done at first time through a layer of Magnesium oxide
Try plating flake by dipping Ni Cylinder in Magnesium Sol & blowing it with mag then back in Ni Solution again - try dipping Sr Ba mg true neutral or slightly alkaline perhaps oxalates strips then chrom by get report by acid

Try Zn instead of Co to form 1st film for chrom reducing by Cu for stripping flake off



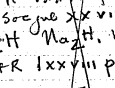
gas under pressure will X ray change it

Will light reduce Br_2O_5 or NO_2 ~~Silver~~ plate coated with gelatin ~~Agnos~~ organic $NaOH$ + Black dyes to Black + Top mind To light should reduce if organic matter in it (10) put in effluent - May want a reducer just strong enough to funnel works of light. Try it, if many

How about acetate feeder of Cr_2O_3

See Troost & Hautefeuille
Compt R. lxxviii p 686-690
Chem Soc jul xxvii 660
K_2H Na_2H. these described
Compt R lxxviii pg 660

Is chromic Hydrate a Conductor Try Kohlrausch
$Cr.5H_2O$



of it conducts see if as good as if all water. Compare ground to HCl. it forms at 100 C steel - Try Expand at say 5 C. both the Cr & HCl see if conductivity changes - hundred fold from 18 C down to 5

Polished Aluminum plate in dry chlorine slide coated photo on it. Cl under influence light Sunbeam with the cl - at bright spots.

Plate with gum gutta-percha on another in film left in contact - Turpentine - put in chlorine of dry Chlorine Light Camphor Cl Ozone Turpentine Then paint added on & mix & wet.

Lead Peroxide or wood ash, dissolve it cleaning in NaOH, Al_2OH.

Use Iodine Little Turpentine of Lamp or Petroleum. Where lamp is sealed into a vacuum bulb.
Iodine Dry 18 Long heat - then air dry - then the part of the Conducting of light will not go as good

Perhaps Iodine which Conducts & slightly could be used as the Aluminum between plates of S.

If with several embedded wires dip in H2O varying for good electrolytic conduction to power - suppose we take 1 gram per 100 cc of good Salt + then add pure salt + measure by until the [illegible] Cards as the good salt at [illegible] leaving what will be the relative amount in solution —

Heating a sol increases hydrolysis

Long tube 1 meter - platinized wire all same dia platinum terminals always same

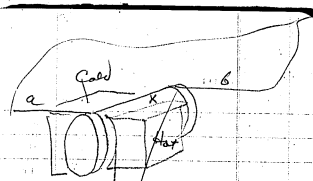
High Vac X ray stage

Use sensitive thermo inside

Connected to gal thermo platinum wire -

Heat one end of wire by current 1/10 of the length + determine electrical time lag

Conducts along wire to thermo —



Cylinder of copper platinized Coated Copper all but 1/4 inch at Each end Sulphurized thoroughly + Cut a 6 cylinder brushes —

Try Nickel plates between which is 1000' layer of a sulphide of a metal - use hot + cold water + also material of plates use Fe graphite gold plated Copper, chromed, colloidal bismuth, phosphorus, oxides. Move that are black + also peroxides - dialyzed

Make a collection of coloured chemical compounds pure in collodion tubes arrange them around an X ray tube & let them go for weeks see if any change — S Iodine Hg S Etc —

Use another X ray tube assemble around so get some strength the fluorescence equal 1/2 of Ead fluorescence with thick lead lit tube go on week then test for fluorescence Eye & Roentgen tube = Still not Ead — Tube —

filament. dip in graphite also argon coation of platinum finely divided metallic tungsten Cr - Mo Vanadium, Carbonyl in Nitrogen in Hydrogen

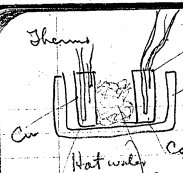
Platinum Wire metal flock film in Vacuum deposit process press Wire to an electrode use new silica tube white hot with Hydrogen C.P.

on the theory of thermo Electricity Kolrausch Pogg and C. vi. 661 & Oj Lodge Phil Mag [5] vol 2 524

Compressible lead oxide = Pb Cl O Conduct slightly at ordinary temperature without electrolysis & red diminishes heat nearly up to the red MP Wiedemann Ann Natural Compounds Lead dissociation.

Conductivity of Tellurium
Silver = 100
Tellurium after fusion very slow cooling was 0.00435

Following in descending order of Conductivity of Chlorides at 18° C
MgCl - KCl. NaCl Li Cl. $CaCl_2$ $BaCl_2$ $MgCl_2$
a maximum Conductivity below point of solidification shown by $CaCl_2$ $MgCl_2$ with the others Completely pure increases conductivity with temperature in various degrees KCl increases equally in proportion to temp constantly and = $BaCl_2$



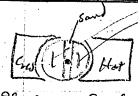
All the diff. oxidizing solutions all kinds, causes of Reduced get a thermo both poles same metal as electrolyte get no polarization - Hardly get thermo Current. If form bom among Not H & Cu) (like Storage battery) Can use Copper cells & plate diff metals on un Depends both -

Perhaps can use a Solution like polysulphide Ox & reduced by Circulating liquids no Energy wasted -
with weak Current for working & reduced may be reduced

Ferric to ferrous without deposition metal on increasing Current metal deposited)
Can use the cell kinds reduced with salts which form ic & ous salts or gently circulate liquid
without circulating some ~~into the region of one cell~~
what is better reversing the heat + oxidize what was reduced

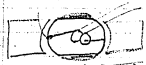
Mg electrode in KOH.

possibly Manganese can be deposited from KOH on Mg Cathode very Cold & dilute —



Rotate

Electrodes Carbon — 1C + one
Salts, rotate + Commutate



Alternate Currents

Chemicals for electrolytic Therm
Salts of: Cerium
Iron
Copper
Tin
Manganese
" Chromium
Vanadium
Hg
Arsenate + arsenite KNaLi
Sulfides " "
Selenides + etc "
Chromates + BiC
Ferro + Ferri

Potash solution or Na Li same
Metals with their oxides same
Uncleaned + fresh on 2 poles
Cu Cu_2O both poles
Fe & Fe red by H,
(Bi + Bi rods) "
Ag "

Reg M Fe storage battery from
forming both poles + neighbors
other
slowly changed — if now put
in KOH + one now heated
(to) the metallic the ox one
being kept cold. the hot
now will oxidize as it has
outside Energy + thus excess
will reduce the Cold
now ox to metallic
on Reversing the heat
opposite reports follow
+ We get a Current,
Copper is very sensitive also
This is only plating Oxygen
To + from like metals

With metals in high salts heating the anode ~~Cu~~ absorbs Energy + has more than gases out when deposited out Cathode get slf in Current ~~Nitrate~~ ~~Solution~~

With Copper in KOH.
Could use high temperature + concentrated KOH sol. as CuO not sol then =
possibly the anode which has had Cooled be rotated + got in air + self oxdyd thus helping the K_2

Its probable that I can employ temperature up to 500 or 600 fall on both sides of Cold side if kept down to 40 or 50 –

May not phosphorus — Alkalin Earth Sulphides be due to change of Sulphur from Orthorhombic to Monoclinic + wonderful Selenides of Lime Sr + Ba be some more sensitive or phosphides of which – Think Calcium phosphide can be made white if lime pure + then fused up cap no volume away +

In all these experiments a diaphragm must be used to prevent Generation Currents + thus loss of heat.

---

possibly Sulphides will work better than Oxides in Sulphate of Potash – Formation gives the sol + more quick –

~~phosphates~~

Bi	+25	Fe	56	5.2
Co	9	Rhodium		9.6
Ni	5	Sb		9.8
Cu	1	Tellurium		179.9
		Selenium		290.0

Compiled from Bi to Sb – Bi to Zinc

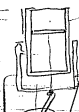
Emf or Voltage of of a
Bi Cu element is from $\frac{1}{20}$ to
$\frac{1}{240}$ of a Daniel with 100° C
dif temp. The alloy 9
" head Great thing each to pieces
look it up —
and frequent Cu Sulfide has
ten times the Emf of Bi Cu
Couple according to Pouillet

for electrolytic Thermo
Castner Cell for KOH Sol.

K_2 transformed
Non Hog —

Sun or heat mole

light



phosphorite on Copper Sulfide forms
a black phosphide not affected by
air "metallic matter at Red heat,

Cupric Sulfide made by acting
on Copper by S also in CS_2

For testing of Electrolytic Thermo
use

then Electrodes ½ day keep non hung

Pop Element, under Carbonate
in Strong Sol Cupric K Cyanide
Thermo —

Ferro or Ferri Cyanides work on
Cu powerful oxidizer and under
oxidized KOH, with Thermo

Nickel plated strip from aluminum when Al ammonium sulphate used - as Al has an oxide on it can deposit the oxide thereafter from Cu sol. soda or phos. soda.

Try

Magnesium anode & cathode in KOH, that other Cat. may give Eminent also all Hydroxides or Pure KOH work

Aluminum Cathode & Anode in Salts -

Theory - If Electrolytic decomposition OK Then Salts dec in K_2O The radicals all Chrome + Metals all fine - The wind Sp. gravity coking Al_2O_3 filter wont last Radiently there is electrochemistry

Try Telephone Transmitter Bright Sulphate Copper 9 hrs some rubbing on anthony also Tellurium in primary cold solution

If a good thermo Cu S touched body - get high voltage or Constant V + high Current than Mechanically transfer 2nd Cu S to another Colder Cu S couple then those 2 to 2 more until all the heat pulsing by to frequent radiation, upon this theory - it looks as if 50% of the Energy could be utilized by some small device

Ascertain if constant gives higher V at + then falls, working on Constant when 6 hr loses as much heat as I receive also if there was great Heat or Current Focusing

possibly a wheel form of pile, buried in Rocks not or a Vacuum with the electrons walls + focused through a section of radiant heat

Radiant heat

Well Cu plates finely divided
Coated Insol $CuCl_2$ [illegible]
in $CuCl_2$ on charcoal [illegible]
reduced to Cu in [illegible]
+ Passed to $CuCl_2$ [illegible]

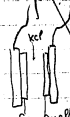
Ditto Cu plates finely divided
Coating Ferroxyl of Copper
Ferroxyl - Slag [illegible]

Copper Electrodes finely divided
Vacuum oxides on each
Sulphuric acid or a Sulphate -
one reduced up other [illegible]

Bi & Sb powders pressed
in Ring & wound with
wire ought to convert
from Tadpole + rings
also the 2 oxides reduced
by H,
Possibly alloy -
CuS + Cu same thing

Cellulose of fruitful soaked
~~in water & [illegible]~~
pressure Carbon pocked
the Tungsten - or dipped
in Carbon S of with WOCl
the CP Vacuum H from Carbon

Fluorspar CaF_2 becomes
phos by heat possibly the phos
in ores at Tobam.
see what effect steam
+ by Electrocellulose +
heating at same time



Before Cu $CuCl_2$ } no [illegible] doubled in
Ruins $CuCl$ Cu } Electrolysis - use
Thermo dynamic - the Bromides & Iodides
acid + Oxides of every thing which can have
metal reducing + the [illegible]
salt in my [illegible]

Can make by Precipitation
Contact in Vacuum Oxides

Try all the crystal shades by flash light. Mg powder in nitrogen to test Carbon arcs burning sulphur - Iro.

Moved cylinders of Oxygen. Mg then boil of MgCl will dissolve out leaving MgO powder. Crystal still fabulously fine - try Zinc oxide another oxygen -

~~Prep~~ ~~Lead~~ test chalk, Eng LiOH NaOH, NH_4 & alkaline salts of acids - ?

Water, Carbon make spongy p/w not touch 1½% KOH 10% K_2CO_3 -

Ditto reg 1½ spirit Reg Mon Tempered lightly with Red Cy Mond - ~~[illegible]~~ 4 ml Ether -

Make some precipitate Zinc Sulphide for fluorescence with ZnS self in metal - Tetany thermo. Zinc phosphide metallic like -

by using a lead cell as chloride of lead that one side a cathode the other + removing cathode into a mixture of metal + [illegible] fully in hot water the current reduces the metal to metal or even vapor

PbO_2 dissolved Cu sulphuric acid to oxygen liquid as only decomp on boiling giving O. ? Thermodynamics

Lead Electrolysis Sulphide lead. Electrolyte H_2SO_4

There are lead sulphides lower than galena PbS - they are Pb_4S Pb_2S made by fusing finely divided galena with metallic Pb - low galena Pb_4S Pb - galena Pb_4S - heat - most active chemical compounds of dense Sulphur compounds Pb_2S formed

Copper pass Chemical property ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~

Hydride Cop - decomposition with HS or Hydrochloric

The formula when such a mixture of hydrophosphorus acid not higher than 70° C thermo

Thermo. Cu polar Cu_2S on 1 CuS or Cu-other on heating CuS decomposes to Cu_2S –

Electrolyte Thermo
Sulfacid Antimony
high + low oxides
Neither Sulf H_2SO_4

~~Antimonate Copper~~

Copper at 0° Cent forms a peroxide decomposed at higher temp.
Can't this be utilized.

Try Ethylate of K in butyl
K O Ethylate K
K O Methylate K
Ethyl O Methyl Ethylate of Methyl

Jan 16
Vanadium Sulphide
V_2S_4 black used alkali
alkali sulphides or HCl H_2SO_4
also Hydrated sulphide
on precip in H2S but
gris black not clearing
on drying unless with
Basic metallic Sulphides
forming Sulphovanadates.
also V_2S_4 black stable
form Sulphovanadates
above for electrolyte Thermo

Sulphide from Magnetite
may give rings for high
Conversion or oscillations,
no breaks or long of non
lines,

Precipitated Magnetite of
filment, it comes to high
res –

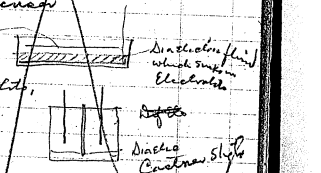
as aluminum poles in Vac
don't carry all metals as
generally used in Spark
tubes - it showed not as a
Rectifier for Wireless for
Emg + other Receivers which
might invert Direct Current,
rules at that degree of
Vac that was lowest
Reg,

Have Dally see if he
can seal quartz with
Lead glass or other
glass for Vacuum Experiments

Try in tube with reflector
put cup Carpichy Porous
it might possibly get to
CuO_2 hydrox or hold
there at Zero with
9cc of Hot H_2O & other
poles -

Thermo Electrolytic
perhaps may be bothered
when heat + Cold poles
with Thermo Current at
junctions where I use
2 liquids Compositely
utilize or multiply it of
bad Cell a 3rd liquid to
2 Sandgartitions -

Condenser



with Coolers & of Electrolyte
& Diaphr might get
interesting results with strong
Currents -

Phenethalein die in the Diaskeuo
a Reversal K & Cl as zero might
show K + Red at junction of
Diaskeuo try a heavy
Condenser dipping or current
Thus would show really what
are primary reactions in
Electrolysis - If the
Radical say ethyl was
Col in the Diaskeuo
We might thus work
Electrolysis Everything
With Tetra Chl Carbon might
possibly transfer Cl &
Substitute K. -

It may be possible that
Reason liquid dielectric
not Conductor will that
Cannot make molecules
transform between a
solid & a liquid but
can between liquid &
liquid -

Try say Ether + chloroform non
conductor which dissolves
metallic Chloride + salts -

It possibly Thermo Current
phenomenon has something
to do with allotropic
Change from Amorph to Crystalline
which also Illumination phen
will show fatigue
Can test this with Becquerel
Cus. & Pellerin. +
probably Effect Light on Se
because they take X ray luminous
which the amorphous phen,
Chlorine is a peach in
this respect, it quick.

For Fluoroscope with
fluorescent Oxalate Ca
will need Decard
Lense - to get
vector through

There is no reason if get rid of emulsion why Kinetic pictures Could be taken 1/8 of minute & Lumiere's present one perfectly a if not direct could use pyrometer & print it 1/8 on non emulsion film

Possibly Can take 2 of Ray Nitz Cell & oppose them changed so they are equal then heat one, this would give no Current in outer circuit & then by reversing heat the other will recharge the pyrometer heat one & so on calling the power entirely from heat, ? —

Perhaps Nitz storage is not best form there is a hoard of Experiments, Can be made on this principle

Crova did this.
Compt Rend 1 xviii 440 —

Test for organic matter in alcohol just that with Kjeldahl method

If alcohol Coulson or Lumiere & Lumiere grazing or any other reducing agent in the KOH alcohol it

Momentary Contact of one metal with another one hot other cold - ~~makes~~ makes what slip in volts or perhaps it makes it clean & molecularly part in Contact or film deposited also by film of Excited by Thin by burning in air Kinds of plating & show tools & giving it a 1/10 second blush

Something artificial Sulfide Copper, water, very probably of from $Cu_{10}S$ to a high ord & will go CuS_{10} or so also another $Je S e P_1$ — & alone in every proportion

Thermo current I may be due to a slow cementation effect. say CuS & Cu heat produced causes the CuS to segregate into the copper & sulphur the CuS to Cu_2S & effects in the reason, than a vast number of experts permits passing I thus the joint causes recession of the cementation effects.

Lithium is a metal which very little has been done yet it is wonderful as so. Close to H which is whole basis of acids & alkalis — introduces this metal & salts in all kinds of experiments look not for ore & process produce cheap — all ore brokers for Lithium etc.

See if $Mn(OH)_2$ dehydrated to white MnO_2 by heat KOH 33% will boiling put in KOH with $LiOH$ becomes hydrated & active & then boiling go back by dehydration of Mn_2O_3

See if old I 13 bad plates is made good or better by soaking in cold also heat $LiOH$, alone & in KOH

Thermo electricities — Take 2 Fes which have been designed to zero. Heat one. Then might carry out that latent chg which comes out by heating & change the other. Then reverse etc.

Dec of KOH dis ferric or ferrous ox gives – also strip deposited on Ni strip when Cathode + Reg Fe product anode in KOH.
21 27 + 33 –

Camphors of CuS gradually deteriorates in Vacuum amp etc, by arranging a pour on steam paper + other cuts water paper + measure once week –

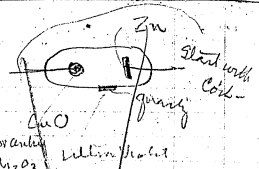
Dec of Crystals also KS in more KOH in other –

Thallium or Manganese Arsenic or Fe are weakest elements for Sulphur + Hg or Cu as strongest – may give an ~~Hom~~ Electrolytic cathode possibly Na-Li or K Sulphide for electrolyte –

possibly there are an endothermic sulphide, a Bi or Disulphide – This can be ascertained by Experiment + use the already KS + not the dissociated alcohol by Calles –

Connect to earth a wire tray at end not Vac X of higher – Hg are Quartz + Connect with the Ether

~~Dec~~ Use X y z + other Recovering instrument + allength connection magnetic and wire etc why be oscillation in Ether Dissolve Wireless –
Oscillation Sunspots



Cell with alum. dif electrodes
plain & gauze on Heat trap
lumen to 2

Transparent Crystals
Contacting fused salt
one impedement fluorescence

Crystalize in Vac H_2SO_4
to absorb H_2O

If KOH Takes out Silica
wash by percolation hot
MnO_2 fine or not crush
by Hot LiOH wash out
LiOH & run Reg KOH.

Have Hinkley design a
~~pattern~~ wheel running
~~Pressed to~~ good surface
Vel or mixer to throw
powdered Coal
Export with it. Cut out
solid - possibly feed
from Center or periphery
Capitsing wheels

Dr Grothe, assay bad
Cell KOH & then bad
Cell LiOH, LiOH alloy
running the Cell good
sp what it does out

Got some big books marked
to Entles Experts also
Record of Tubes 7-2
& special tools also Experts
Record
Order 2 dozen - all
uniform under thick
best paper - lay flat
Every - Special

When I went away South
I left 2 or 3 more
which had Copper on
account 6 x 6 they were
on desk in tube room
unassigned when they
were prepared not left
Cu 72 Pyro -

Take 3 of the pyro p-69
that has fuse in + gone
low - take out & look out
KOH + dry them then
put back 4 oz of some
up - also 3 run in
21 g KOH 2 grms LiOH,

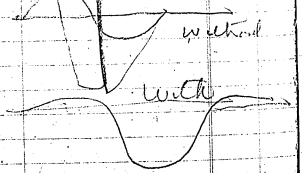
Metallic arthrium + Bi or
Nickel having lowest spec
heat in Queens ought
give good thermo
Current, Radiation
only usable -

See of X47 at recalescent
point of iron - vibrate
heat above + below
the point, Quantity glycerin

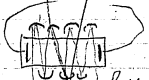
Some of the results of decays to last Pick out Inf at diff temps — also heated nearly to melting point — Heating in Black Box — cooling —

showed conduct & or Energy

To changes alternating Current pipe circuits of Co plate, 300 or 400 volts cccc — put in amount

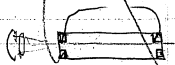


2 Electrolytes porous partition heat junction —

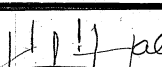


Reflect Radiant

Hi light across electrolyte get fact ~~[illegible]~~ diff metals plan + placing solution etc shutter — Hg Arc Sun Carbon arc —

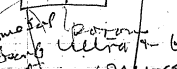


tube — allength light 1st one end then other —



alum

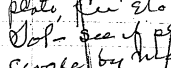
Somewhat porous
coloring ultra + blue green
Elo —, mixed with
plating Solo or non
polarizing Solo



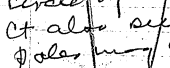
Silent discing Nickel
plating Sol strong
Make films!

Try smoke ring
for throwing Copal
in figures

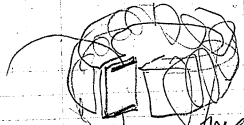
non conducting
smoke - polished Cu
plate, Cu Elo plating
Sol - see if plate
circle by micrometer
Ct also see if
poles run / Copy at
hole changes it



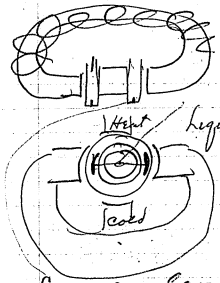
sand
heat
Cu plating
Sol.



Earth insulated
Change Earth plate
from one to other



Mag
perpendicular
Cell set Palas
mag - heat + dissolving
Red Electrolytic
lines want to form
but have to work
against repellant
force Mag - plating
etc Solutions



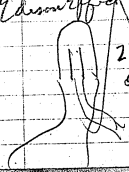
Circular glass jar -

Dec of Edison effect is
affected by magnet
if demonstrated (Hg absorbs)
by Sulphur, by iodine
Excess of Hg - Tin amalgam

Dec of call with 2 also 3 grams Lithia 21% KOH in affordition short chg hot flashes or chg Cacs also bat also 15% NaOH, 2 & 3 gms LiOH. —

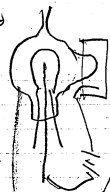
My a valuable Spiral continuous Ct & allentoin on photo plate

Edison effect -



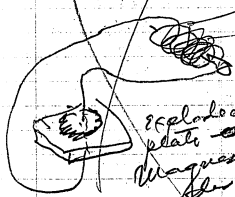
2 extra wires dec of a battery Ct go thru

also



Battery Cell

see of Young & Early phenomena



gal

explode on plate ~~at~~

Magnesium powder

Try a group 1/2 in with plunger just as above but it will work.

Dilute Electrolyte

projection of ion showed but N or P gave a ray use Collodion held Cathode + anode forming part of cell -

Try Slurry with Silicate Proto & Iron also Proto Silicate. When + together

Potassium Ox is reduced by H at low heat whereas Lithia is not reduced by H or CO

Sol of Li_2CO_3 0°/Cent
100 pts H_2O dec 1.539 at 10°
1.406 - at 20 1.329 at
50 - 1.181 -

Heat of formation

	M_2+O	M_2O+H_2O	M_2O aq
Li	140 000	13 000	26 000
Na	105 000	35 400	55 000
K	97 000	42 000	67 000

Berkeloff says Lithia must be an unstable oxide of Li.

Try of Crater of arc light Carbon - Bort Diamond - mixed with all kinds metals & compounds to make Carbonado

Try KOH + NaOH
with LiOH, trace of LiOH
dont make Sal from
lead —

Have Hard sand
10 lbs of Chalk after
Parson Rolls —
dilute Chunks
from grinder —

E Schaaf - Rzgelman
17 State St
Batty Peak
NY

Spodumen 30 00 ton
Lepidolite 35 "
Columbiyaonite 45 "

Spodumen

SiO_2	63.4
Al_2O_3	28.22
CaO	1 54
Na_2O	2 12
Li_2O	4 To 6

Lepidolite.

SiO_2	48.61
Al_2O_3	22.36
CaO	00.64
Na_2O	00.38
Li_2O_3	4 to 6 %
K_2O	16.16 %
MnO	2.05

Amblygonite

P_2O_5	46 to 48 %
Al_2O_3	32 to 34
Fluorine	4 to 10
Na_2O	0.4 To 1.5
Li_2O	6 To 8 %

Only determine
Solubility of Li_2CO_3
in 10 15 % NaOH
+ 15 21 % KOH.

Historical Survey of
Crystalls Luminescence
etc 800 substances
show light when crystals
crushed —
Zeit physical Chem
1905 Vol 53 — 1 —
get.

Try Balmain paint on plates neg
also oxalate di - to
permit of quicker exposure
etc

Put up 5 flat plates
21% 2 grm LiOH 21% KOH
5 with 15% NaOH. 2
lithia —
5 with 21% KOH.
2 LiOH. 1 grm
aluminum —
5 with 15% NaOH
2 LiOH. 1 grm
aluminum

Old Cells which (tube)
wont come back with
LiOH, heat them
long while —

See if my neutral
Sol Salt of Bismuth
to dip tubes in —

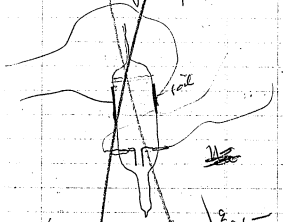
Allan's Cable 1/3rd Microf
+ 33 ohms —

diaphragm of phone with
1/4 hollow metal
ball center charged
Carbon only + vibrated
piccolo near another
tried by see if get
Columbia Current

Alloy all Kind with
Mn Cr + V to get
magnetic metals

get pair 2½" disks of agate & grind precipitates in them with to increase solubility, as colloids many from like Feldspar & Portland Cement to prevent action & give false solubility probably large number of metal salts can be made advantageously soluble by grinding for many days & probably a Compl. process for K & Li from Feldspars grind under water probably made like paint mill

Na Li K Ca Sr Ba
in tubes, def wires
& opening only by Capillary
tube very fine let gas out
DC – long time under
electrolysis to get
nature of deposit.



also Mag. field & Stress
field – might get Hg & Electro
X ray & Radium –

X ray

Na K Cs metal
heated get vapor
long continuous exhaust get
Copper a la Rapsway

In Rectifier
All Sol'n Salts Aluminum
Formiate Al, Cyanide K Na Li Mg
Fluoborates alkalies — Phenolsulphates alkali
also methyl alkali
Experiment with old
pockets that out of
Cell giving only 50 amp
Soak 5 pockets in
1 OH. 1% 5 2½ 5 3½
5 Saturated 5 13%
NaOH. 2 LiOH 5 13½
Saturated L. OH. 6 hours

Duplicate all previous
Hot, 64 hours —

Rectifier —
Carbonate Sodium K Li
Mixture of same with
Each other also. Mn Zn Al.
Pb described — the Carbonate of
the alkali —
dilute phosphate Li —
" Arsenates + other
metal Ammonium

Might start a Campaign
with groups 1 to 2 times Ms
with the chemicals in
Solution and known not
to affect the Ms to see if
Can raise value of the
Tests dummy Chg Voltage

possibly Current passing thru a cell. Notes the Molecules like wise arranged.
Try of a strong current in a cell shows any disposition to attract any metal or Compound placing on fibre silk under ball in or at any part of the cell.

See if water Carbonic acid Conducted by use of any Electrodes alloy or amalgam also with Good Electrodes Expand the use of Magnetic & Steam Heat Light, X Ray & Rays.

To test if H_2SO_4 from dissociation of hydrates. Test Dielectric Capacity of dry Sulphur with bottom glass plates of a Cell. also Viscosity - Micro Capillary Tubes - also Capillarity -

also Compression

also absorption Spectra with dry Kinds Light -
also change of Color -
also flotation of most gases
(c) Electric Time -

Try fatigue of Quartz Rock Salts & also Hydrochloric Crystals to various Rays.
also reflecting & absorbing powers of dry substances to Rays -

Diaphragm Ephemeral chamber mirror on center line
See if any Vibrations in Barometric pressure during Normal & Thunder Lightning etc.

See if any Crystals in permanently fluorescent

Dr G to make fluorescent Crystals plain & colored with small % impurities. Say Cupro-cyK with 50 or 100 diff impurities in 2 in dif %.

Get some Exhaustively large Crystals of K Stalks Hydrated & only.

Selenium B.P. water
KOH etc. of ich
amyl & Cyl acetate
on top.

powder up all kinds, homogeneous Crystals + use pulverized steel mortar & pestle on blocks dry & with various amounts moisture to get Experimental plates

possibly water vapored conducted if it was diluted Enough by a dissociation hydrogen into like a Vac tube. Try CP Hydrochloric with water shaken up with it + poured close together.

for discoloring green out tubes try NH4 + Sulfuring Carb NH4.
also Hydroxyl amine hot.

see if the solid drops from an old tube so softened up by LiOH. or LiOH in Na + KOH.
Something looks like flakes + green Sloughing

Dr G take old tubes
selenium S1 Te Hg al 2 U

great idea

The rapidity which tubes go bad is in proportion to Concentration KOH. Heated for 2 months in 33% solut. but grew — therefore injury is due to action of 33% on the new Rubber stock in impurities. Therefore take a 33% cell which has run long time put in fresh 33 + a new tube see if it goes bad as quick

Take Reg mix boil for several hours in 33% wash well + use Reg with New tube in 33% + have Dr. analyze the KOH from boiling (Metal dish)

also another lot boiled put up with Rubber, + which has been boiled with 33% several hours

Dr. Y (229) tube 6131 fully chgd contained
KOH
0.357 KOH

NaOH
Tube 6135 discharged tube gave
0.409 gm. NaOH.

Tube 6136 fully chgd
0.267 NaOH.

KOH
Tube 6130 discharged has 0.512

This shows that an discharg KOH tube has 1.95 } more KOH
NaOH " 1.42 }
than in charging —

(Thermo Surrounded)

with helix —

See if Current when
iron wire or any
wire of metal touches
a strong mag (20)
Current gives out
including — close
of metals Land on
mag ~~when~~ never metals
vary with a chem
touch with another
metal use galv
See if Current already
or momentary by
Mag on — off —

Make group
12% NaOH 3 grams
LiOH.
ditto 11%, 4 grm
LiOH.

Ferric hydroxide
Leave NaSO4 in sol
in after pound off all
Can this gelatin 33⅓%
12 NaOH boil out it
anthy — Redtree by Hs

Holland get Ferrous No
sulfate or Ferric ammy
sulfate now 4 N
a 13% NaOH 3 grm LiOH
test Economy of iron

Holland select one bar
E18 a wire 21% 2 gr LiOH
9.0 soak 6 day then
run it another boil warm

Make Saturated Sol of good Crystalizing salts then stir w/ Hot Water & getting precipitate out Let cool while cool off & Crystalize - separate by Hydrocarbon etc Disposition —

Saturated Sol Hot & white hot pass powerful Current thru while cooling to see if change & also in field Mag & Current - try Phos & Fluorescence & if any salt fluoresces

Verify this Vacuo deposit metals & note absorption Spectra & other Spectra thru them —

Valalulyz Subliming Chemicals through heating also Magnet field - also see if it effect rate of sublimation etc —

Cores of dif Metals 1/8 dia thickness wound fine wire & Separate gal Ewy & X y z Rectum Welding Rods which hot wire dif metals see 1 & 2st Rick

Emg – Mandrels
plated all kinds
metals – alloys not
plateable be burned
out metals –
where impossible –
use modeling mandrel
& make contact on
~~ends~~ Ends even with
irregular pieces –

Emg use Condenser
Make Measurements
~~with~~ of V + amperes
Limit all sources under
Various Conditions

Use cylinder Emg

Hydrated Impalic
acid –
silicic –
phosphorus powdery
acids –

Cylinder Filamentaphos
Lead – Na
amorphous arsenious
acid –

Sol of Li_2CO_3 gr

15% KOH. 100 cc saturated sol
Coulom 2.443 gr Li_2CO_3
equiv .991 gr Li_2O

15% NaOH. 100 cc saturated sol
Coulom 2.475 gr Li_2CO_3
Equiv 1.002 gr Li_2O

21% KOH 100 cc sat sol
2.714 gr Li_2CO_3
Equiv 1.099 gr Li_2O

Make group - 10 NaOH.
saturated Li_2O
" 6 NaOH
" 3 "
Li_2OH alone.

24
168

group 10 dipped in Bismuth
Solution

Dec of that basic sulfate
from the Rubber (yellow)
to sol in hot NaOH KOH
particularly in LiOH.
It probably the stuff
makes bad contacts
inside pocket.

Try determine Viscosity
of 21% KOH with 2 gms LiOH
in 100 cc
Ditto 15% NaOH with
LiOH 2 gm in 100 cc

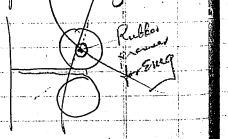
Group 7 flake 17 green
Round the corners.
This will give me no 10+24
but more sections

See if Conductive Electrolyte
is same by Kolrausch
approach when diff metals
are used, try LiOH, + these
all temp. relations

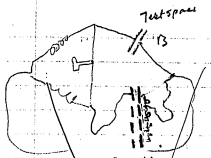
Take 2 out of one of the group
of 9 grown + with 15% KOH
+ 2 LiOH
+ 2 in 21% KOH with LiOH. 2 gmm

Possibly burs showed not so
ground off so much so they
will hold mix after scraping
Try OCL make 1 doz tube
burs not ground so much

Try No 2 grown in beef jar work

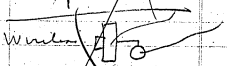


Test spoon



ac = X

use over Condr X
also B - Galvanos + then measure
in B all kinds materials
Hydrides + oxides, Freezes
powdered Crystals etc
first ~~Observer~~ Capacity
+ other phenom use
telephone



point very slightly on
slowly rotate, when closely
heat comes fusion bite

Try group 18% NaOH 3 LiOH. &
Saturated with Thallium Hydroxide.

Ditto. 13 NaOH. 3 LiOH. 2 saccharate lime

ditto 13 NaOH. 3 LiOH 2 saccharate Ba

ditto 15 NaOH. Saturated Thallium OH

" 15 NaOH. 3 saccharate Ca

Smg Aluminum Cylinder
put go film on & let
the pressure food just
rest on it & don't
leave [illegible] & try

Al Reflex Alford
& paper like Cardinal
& Radiancy Surface

Al Reflex Sol with
Reduced [illegible] at Cathode
copper at anode & then
slip loss energy

Dr Gratho foil above No 2
gram in 5% NaOH & Saturated
LiOH, wash & dry

Only test No 2 gram for
S.O & Carbonic acid.

Tell Holland to test
tubes for efficiency 75%
of their max capacity
on long chg making
of the coarse wires do it

Dr Gratho det Soluble Thallium
Hydroxide in water also
in 15% NaOH 21% KOH.

Crook Thallium Proc Royal S.
X X 475 -

Oxalate Thallium for fluorescency

Thallium salts, inorganic
delicate test ozone
H_2O_2 Urea Iodide KI +
starch = Elec pen
Chem Reading

Thallium salts remove
daylight =

15% NaOH 100cc Sol 3.295 Li_2O
5.269 LiOH

21% KOH " 2.858 Li_2O
4.573 LiOH

15% KOH. 2.916 Li_2O
3.668 LiOH.

10% KOH. 1.822 Li_2O
2.918 LiOH.

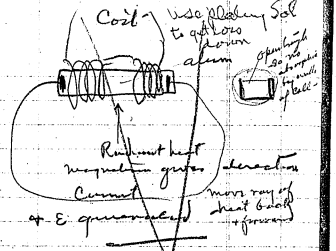
Saturated Solution

Sat acct of Strong LiOH in 21%
Carbonate MnO_2 be stable it
will be good or Thermo
Electrolytic Conversion heat
cuts 2 —

Holland determine Capacity
21% Saturated LiOH.
at Various Temperatures
upt. 212 — OK
also NaOH, 15 + 10%
Saturated LiOH.

218 1330 cc 285 of which
goes on plates.

perhaps green will
go to MnO_3 If a cell
is heated + ~~[illegible]~~ LiOH
works. this would be
good for Thermo Conversion



CO_2 is not a good absorber of heat but when the source of heat gives CO_2 it powerfully absorbs therefore in above experiments use sources of heat which certain are chemical which is also in the liquid absorber. So look out for useful metals for Cell Contains Hot walls etc + have the absorbing

liquid Contains the metal or if source heat used the CO_2 must be in the liquid or if flame fed with N_2O then have N_2 + CO_2 in the absorber so the electric spark chrome 2

In all attempts to Convert Heat into Elec use nickel or alloys as in no other way can it be done. This broad fact has been left out by Experimenters

With ordinary yellow & red light use absorbers of dye respectively to see if the yellow red or yellow violet light causes the fluorescence by high amplitude yellow red might do it.

Use of Carbon Tetrachloride absorber or effective filter

Also experiment on forming a film with Carbon Tetrachloride in back column of —

Use of chloroform and camphor as a solvent for film stock

also Chloroform and acetone or any of acetone which would do. Dry Chloroform transparent solid

As Kodak does from film stock use of weak solution running film with acetone on dropped in instead of concentrate so then dried to concentrate of then film washed out ought to check film to gelatin!

Try effect stock dry by Cone Arsenic acid.

Have Howell flasher

Tetrachloride & Spec

Lamp

Dropped tubes.
6387 – Bismuth fluoride
6388 – Formate Bi Con Sol
6386 – Bi NH4 Chloride
dissolved NH4OH –

Note Formate blackens the tube but not the grid –
probably only blackens the green in halos or clusters
green outside of not
then the tube must go
badly plated – black tube off
healed green in formate Bi
it dust blackens
Here is a case of bad plating & Explosion
why the over tubes
gone bad –

6386 9 notes after soaking
all night some of green
forced out blue halos
but only little, others
ok – 6385 has lost its
black color –

Arcing very delicately
suspended in fluorescent
for def Range of note if
it allowed anything
also delicately
Suspended & when
acted on by a
Ray X Rd Light Etc

Patched plates of gold
Platina, Etc lay on these
plates pieces of metal
higher in electrolytic series
than Bi - after long
contact develope by
penetration of metal
into the gold or Pt.
by means Core formate
Bismuth -

also use element
some figure 1/2/long thick
lay on plate + put other
metal over it. Then lay
it at ordinary temp it
throws off the metal to
the plate in a way figure
underdeveloping - also
more than one metal
may X Red Elec
Elec -

Formate Bi in gelatin on glass
ought to give photo - by
~~[illegible]~~

also metals in series higher
than Bi in electrolytic
series - spread on glass
through transparent now
exposed photo medium allowed
to expose by Ultra
Red hence no photo
could be developed
by using Formate
Bismuth the Glass
parts not exposed by
Ultra Red
Could photo in dark -

3 groups. Each dif
amount 1, 0 ~~pt~~ +
run clay & dis hot
to see lebrot amount
necessary to get good
clay also to get
Curve points, bot
2 gm. & 5 [illegible]

18
39
17
56 KOH.
59

23
17
40 nacl.

17
24

23

56
21
5
112
117 6 KOH made

40 | 56 (1400 (140
40
160
12
700
17
21

24 | 56 (2.33
48
80
72
80

1.4

15 | 21 (1.4
15
60
60

21

18 | 21 (1.8

8 | 21 (2.
16
50
5

9 | 21 (2.33
18
30
27
30
3

56 | 240 (4.2
224
160
160

5288	5.774
5289	5.910
5290	6.164
5291	6.009
5292	5.926
5293	6.042

5461	1.616
5460	1.539
5459	1.486

17
7
24) 170 (7
168

J M Tyborn

Ezuelequeby

37,200 Cuba

Dam Clay at Rice

Creek near paladka

Brick yard

36,997 (wat 65.8)

37,00 (86.5 avg

37,25+26 – about same

37,27+28 nearly in good

37,47-8 Erratic –

29,95 2080 dam 1407

29,96 2100 to 1832

~~1 200 dam~~

1 Firm Da Sulfate

16 | 1475 – 90

144

35

1475

90

1565

120

3130

1565

1878

75

9.35 12

30.9

Notebook, PN-07-00-00.1

This undated pocket notebook was used by Edison, probably during 1906 or 1907. It resembles PN-06-00-00 in content. Included are lists and descriptions of experiments to perform, as well as more speculative notes regarding the "Edison effect," x-rays, electricity, "wireless," and the properties of light and of metals. Many of the experiments pertain to the chemical composition and construction of storage battery components. Others relate to thermocouples, electromotographs, and acoustic devices. Among the employees mentioned in relation to individual experiments are Ralph Arbogast, Charles Dally, Walter E. Holland, Frederick P. Ott, John F. Ott, and O. A. Rogers. The pages are unnumbered. Approximately 75 pages have been used.

PN-C07-00-001

T. A. Edison

Orange N.J.

Solomon should try – Vienna was discussing
state of [illegible]

Experiment with Hero – ball connected
to a funnel giving of acoustic flame –
higher the rate of vibration the less the
lateral movement of sound waves

Theory – Chladni – of Σ on a wave
is due to the Σ[illegible] having less
distance to travel a distance of say
a 1000 miles [illegible] between [illegible]
[illegible] [illegible] [illegible] in [illegible]
hence [illegible] [illegible]

Theory – the [illegible] light travels
at 186 [illegible] about [illegible]
out like sound waves in [illegible] in
[illegible] in [illegible] owing to
[illegible] of [illegible]
[illegible] lateral [illegible] of waves
[illegible] so in a sound wave
the higher

Theory

Light waves passing into a prism, the waves having shortest rapid vibration will deviate to the side having the least number of molecules which is the ether side or waves side where there is the least matter, the side having the most matter receiving side dispersion of the waves

Theory:

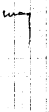
(Why can't you prism in a closed chamber by rarefaction by exhausting the molecules to by pumping a great number of small particles heat together as a cyclone & heavy light which can be reduced by pressure to small dimensions, then when pressure was reduced the dia of orbit of molecule increased. Our Laws Dyslaw works that water only part in molecules — passing of a gas into an liquid form by pressure is a change in the orbital motion of the molecule.

The differ between Molecular motion & the Ether is that the Ether is animal & free & moves in straight lines whereas Matter & Molecules & has orbital motion & all which motions of molecules are by Concretion

Make rotating holder to hold 6 pewter glass to be coated with metals

have 1st get coated so light that can't tell it has gone by looking thru but only by reflection

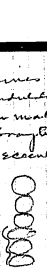
Walls also make some in closed bulb way



use arc furnace highest cone heat & with various metals, metalloids, use often, analyse any other metal found or new metal.

Kinetoscope with Clockwork or bellows drawing bath or motor with Clockwork Control, in small house near Rose garden picture every hour by arc light day & night at end 3 months electrolyte & can produce pictures of growth of a Rose in 2 minutes

Light bulbs in air tight boxes thrown above by magnet but it unbelievable only when of glass, thin walled. Here the propagation is brought about by increasing the secondarily of molecules or bulbs



A Dia with copper deposited on it by Vac deposit facing a disk of metal or rac tube in an exhaustion shined heavy a million or so Vib per second by using pumped shined off of Jamin's flame of a discharge & have focus - probably would shield by electros. not by insulating capacity to get say 100 vol sec

J Henry -

Molecular matter in a closed chamber 2 atms molecules cancel atom of H + the shortening of the ether particles path would account for increasing the pressure - all molecules having this same diameter, but the particles throughout the molecule could be in motion ether vibration which is unlikely or orbitals that is more likely

if particles of a molecule were vibrating to + fro what would result their incursions conduct by attraction very well as this would imply a sponge with no matter + therefore attraction at - distances +

Expmt - Emg principle on 3" beam

Compressed $SnCl_2$ - etc -

deflection Coeffect + power sensitive to power applied -

Make very high speed power cooper small matter + little high capacity

Strange position on a cake stand P

Still of change weight of so

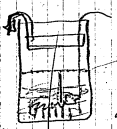
Try Mitchell regrid on Vac power to see by plat mirror -

Invented of a prism make of two Cone shape Rotated at very high velocity — use a Vernier — see if displacement of lines was seen. also rotate the prism use slit & measurement of Vernier —

Made allusion of light prism by burning fore burning 6d stained leaf —

Disposed of in a Collinde of Mercury in which dilthium dissolved & allowed get Jungles Vernier Eto — 5th Cathy —

Improvement in Ballard cells



zinc wire to make complete closed circuit to jar only slight slippage

for electrifying Crookes tube in strong fields use glass slide drop hot sat sol + the crystals. Think initial axis is along ether lines —

Theory of molecules are in state rest + the only the Ether to transmit all motion thru. The bombardment of Ether particles against an orbital molecule of rock would tend to turn the circular orbit into an elliptic or oblong and account for magnet controlling radia + expansion in length + therefore to fixing the elliptic the Vernier.

with very thin films of metal from Vacuo deposit, light waves striking the molecules should change to curves instead of oblong & magnifying it & yet as current of air & heat by intercepting the light - possible adjustment would normally would do so - the light will not clear thru the metal hence if any Currents they would be perceived but there being no directional power it would be necessary in case of gold to detection the influence of Magnetism Etc

See if the Dia with Ozone deposited by Vac forming a disk - give wireless or induction to gives dia 100 000 sec will when provided effect gold leaf Electroscope at distance -

Wave length of Light Varies bet

$\frac{1}{38000}$ of inch & $\frac{1}{45000}$ of inch

mean value $\frac{1}{40000}$ inch

Think Methods Expands on passage of rad. & heat should be tried in Vacuo

or Use instead in Flames / Radiant heat Lime opp

Try Flint glass
Rock Salt
Selenite Rock
Quartz
Borate Soda

Citric acid
Rock alum
Sulphate Copper
Fluorine

Rock alum absorbs heat rays perhaps it fluorescence inflammably & if made a lense might reduce ratio vibration so it would cause Pt Baby to fluorescence

If NaCl in Spirit Lamp gives bright D lines of vapor of Sodium is interposed the bright lines are blackened the light being absorbed by Vapor was sent Lamp I don't see why light would not be bright & cool it must then it cannot be a function of the temperature

Do I think that there is no action of Sodium on Vapor. Na Lags & Na. have interference & absorption

Must all absorption is interference or Lag or is it that so much work is absorbed to keep the atoms going that the candle power goes down to below visibility

---

Acc of refraction of a transparent Iron salt Sol is changed by powerful fields —
by X ray — & stress —
Light at right angles —
Boiling the liquid
use other liquids than
Iron salt.

Mix in fine powder fluorescency with good [illegible] absorbers of heat or conversely by particularly in those plates to see if vibration due to Ultra Red will cut the fluorescence — Ultra to give light — also power of slightly modified [illegible] reduced to
Crystalize the 2 salts together on the surface & make [illegible]
Contact!

Try ignited Tungstate Lithia for X ray —

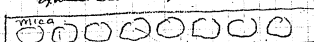
also Uranate of Calcium
Uranyl —

Subject liquids to Spectro & powerful fields to see if absorption lines the
Metals Nickel Especially to cut off Red & violet is phenomenal
it did by [illegible]

Dolley makes globes with Rubber Cork
~~Cuts~~ so can put in a slide contain

Municipal Tungsten

Exhaust Seal + last break Vac + Bulb



actual size Crystals

Berge to precipitate 50% Zinc sulphate
50% Mn Thallium lead, ~~Berge~~ Chrom
~~The Berge~~ with NaOH, with only little
Excess Ka Na, wash out sulphate
then use 25% KOH to dissolve out
Mn Zn Pb etc

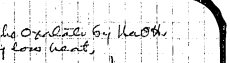
also Precip Reg ½ wind not fit low
heat with 25% glycerine in
then precipitate bromine

Ditto from Nothnagel + Chem. Reg Crystals,
X but no glycerine by Reg - use KOH
Drop X using NaOH -
Have Ralph Drop X using LiOH.
Have the Li Sulphate -

Berge precipitate Oxalate by NaOH.
½ dissolve dirty low heat,

Have are bright fixed up, put outside
darkroom + also have third friend up
Get the Red Lamp - & get slides in order

Have wheel made card board



throw on oxalate rotate cylinder see if it
gets the full flower uniformly -
or!

Kinetoscope - prism Quinly - use
only invisible ultra violet waves
then film receive on screen
painted with Oxalate Lithium
also other more powerful which are
nearly invisible -

Wheel Mount slides on
shutter no light coming in
darkroom - to discover
good + rapid fluorescence (or)
Kinetoscope -

for testing fluorescence slide use Tungsten paper in closed place & move over slides

possibly this may as yellow stopped by glass — arc best

Idea to make mirror to measure Elasticity of Recorded material —

Think porous partition could be found with pores so small that only the Lithium Molecule could get through a la MOH, by using the act + proper pressure the Lithium ions or Lithium molecules could be found by Conductivity —

See if there is any phenomenon of fluorescence when they are dissolved

If solutions are enormously subdivided crystals + the ultimate molecule a crystal those crys which fluoresce should when dissolved absorb the particular ray they fluoresce at or possibly appear bright when one is looking — dark room or with effect photo plate for days of exposure

Bery of chemicals poss good to try with potassium oxalate Lithia Dolomite

Emg - Coat Ends $SrCO_3$ cycle with $Na(OH)_2$ as it will also polyfin Cement also found $Ca(HgO)$ - prefs bottom of tunnel ray Gun -

Gelatin cell make 3 cells annealed
personals opposite for KOH, test here —

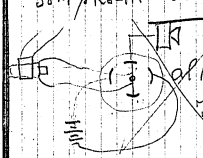
Notice the selection of the
Semitrans — colored
Spectra of light from grounding
Quartz & other [illegible] on
Purely [illegible] & [illegible] by grounded
field having quite [illegible] [illegible]

Gelatin make another angle
lamp following Machine
long tube — side dump &
adjustable in every way —
also for 3½ to 5½ Cbs +

Soak No 2 gram/24 hours
then pour off & dry at
ordinary temp. use 1/2 oz
make 1 gram/oz — 0001
& 00005 —

Dry & [illegible] for % of LiOH, NaOH
& Rb & Cs to equal 21% KOH
having equal [illegible]
% so my est varies by 6 & def
in molecular ratio 16 —

Equivalent alloys
9% LiOH. 15% NaOH 21% KOH
38.4% RbOH. 56.25 CsOH.



Try new pockets plated with Silver —
decomposition opposite to H will be greater
than with Nickel —

Try Al Rect on Spark
Coil connected to
Vac tube see if short
Changes Halo colors
how it affects X ray
tube —

5449 5.803 mod 2
5450 6.048 "
5512 5.705
5513 5.961

Get some good mix from Lloyd Lake test for Sulphur Alumina Etc & then Heavy Reagents clean up his filter & make 2000 or 3000 gockets for our tests —

Get some 7% Na Sulphate & do Same thing

Try some Chg desoxy Reagent

Also chg deoxy Reagent & chg the + Rev agent —

Try group Ferric hydroxy in cell 2 going each cell

Put in glass tube see how stuff dumps - 25 dumps use very thin tube Daily make —

Set up a group with varous % Na Sulfate Chg the Rev chg the Rev to see what chg will do

Soak a yellow Rubber in
Bal Sec if any whitening
due to H_2SO_4 in Brown Sulfate

Scrape off Lot yellow
dissolve in HCl + heat for
min pp by NH_3 smallest quantity
filter + add H_2O_2 to fill the
for min

Put Lot Reg 7a in chydrosby +
Rev a great many times at
same heard for 8 q -
for Spectroscope + assay
Use these now + treat
Rubber for heat groups
after 2 chydrosbert make group
3 ditto a group then 4 5 or 6
complete chydrosbert -
Thus the gradually improvement
of the iron will be shown
Make all the tubes for this
test at once + put in a fixed
place mixing them after
numbering so get all rows

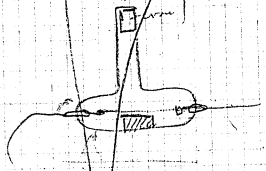
Duplicate this test by
Changing the Rott after Ewald
chy Bro + Reversing for 6 times
giving 6 groups -

Make 10 lbs from Na Sulfate
4 Crystalizer losing 5 lbs
(10) slaking 15 lbs ending
with 10 - Send to Ralph
to ignite + Mix Hg with
for test now -

Wet Eng Thiophosphate Hydrosulfate
ammonia -

Eng - Wet with a solution of any
chlorided Ba Sr Ca etc.
follow with Rott to precip in
form of chloride

filament in Vac Hard feat
should weight - bring the
filament incandescent & test
weight drop acc. of Carbon
filament Tungsten
Carbon etc



Peltier effect on thermo or
Electric Circuit. Try lots
of experiments by passing current
from one metal to other (Scrape
to get) by closing Circuit
precipitate deposit above
& test with Spectroscope

Try Red hot Carbon pressed
against soft iron for 10
hours + Carbon to P. Pole
+ see if Iron hardens above

also Tellurium against Bismuth -
Electric production of alloys
so to speak find out alloy
which gives most or certain & try them
also a definite alloy of them opposed
thus to a piece of metal of which
exists in the alloy & try to
connect current to decompose it
then there should be a negative
of Energy or production of E
also against thermo

It may be possible that
thermo piles or Couples
should not be placed in
contact but another metal
interposed that a good
Couple should be tried with
every kind of conductor imagined
intervening between them with
hope of getting conclusive
for better results —

heating the whole pile while
E co-passing ought to increase
Voltage.

see if thermo junction - heated under pressure changes voltage

sealed tube distilled water heated get pressure

Try experiments on a Thermo of heating junctions 100 deg heater hot junction the
Inhale several hundred degrees heater always
Keep the junction 100 deg heater & see how voltage varies - put in Vac + surf.
plat coat junct immer
whale oil

to test Thermo by rubbing

Vibrating Reed

Vacuo deposit + use fungle spider web in path of anode + glass to see if the molecules of metal goes in straight lines If deflected by magnet shows through
Also Mn Fe + Co molecules collect, try silk bolting cloth

Try anode of Aluminum + put various how MP things on it, on face to Vacuo deposit the substance on glass

Try Sulphur - Arsenic - Sulphides etc Magnetite pyrolusite. PbO_2 - Wax paraffin, Calcite and phosphate

Fred Ott make deaphin Eng
DO2 OT 25/100 + 50/1000
1st 2nd

See if Cu made Cathode in
NH_4 Sulphide or KS to
prevented from being allocked
by the S. o

Put a 50 lb weight
drop 100 or 15 ft
on magnet to
squash it & note
Kicking galv
out

Aluminum, Quartz Capillary tube
Tungsten ends - whole mounted
in Vacuo + gas operate gas
possibly Tungsten tipped with
aluminum ion tube with light 2.0
shows shows after high Temp

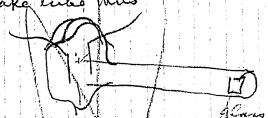
Spark tube with Tungsten Ends
also Sheet Tungsten for X
ray in project, Hadfield makes
also Cup

look up the Calls having
Fe Na Sulfate iron that
have Ni under one side of
Rubber yellow

Glassome Tellurium

Vacuo deposit on glass
with thickest Carbon also
also Canada Balsam
also Horizontal window
allowing liquid nitr
silk bolting cloth can tell
by photo the collision of
Molecules by diffusion
OUS

Make tube thus



So vapor must go 4 feet to strike glass — If off try shielding magnet to deviate the path of molecule —

Use induction coil with Phosphor Bronze & put all kinds metals therein

See if Magnesium Cathode works of platinum with just all kind alkalines Rols & if they can be made considerably

alkalines & try platinum very thin films of metals So thin as to be transparent if possible —

See if Mg can be plated by Vacuum flash

Walks — try Chloroform Sulphur carbon also in funnel open also Closed end cotton tissue also Compressed air — possibly Cannot measure load due to want elasticity of air with present pressure — try NH4 & dispense air —

Everything would work if pin makes tube short circuited over metal
Immersed 2 to 1 mg / 1 2/ml made
wet with KOH, -

Disk of platinum melting in liquid Eng

Wet chalk with Dzarkhov

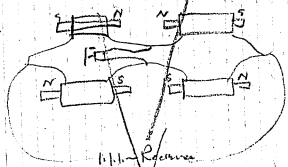
Metal cylinder.
Coated with Dzarkhov
Varnish + pt pin

Roll out some pure
nickel have Rogers
perforate it 21 holes
.005" - make 2 or
3 groups best Cowbu
want see if Iron
exposed in tube, short
ckts MnO_2 + have local
action

perhaps the grid where tube
bent cost on the rounding wire
leads to short ckt —

Take a ~~good~~ (take out
~~pt~~ of grid + put it
against a good tube
also if was gold or Current,
also find out what wire C
Dr I see if $K_2(OH_2)$
Sol in KOH
any oxidizable salt
dissolved in the KOH.
showed short ckt the
MnO_2 + decreases it -

Eng



Covers should magnetic changed
should guys changed
Connected.

Soak some graphite in LiOH,
Dry by H_2O_2 so as not
to Carbonate + make
graph —

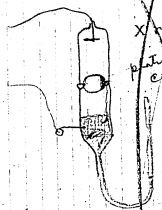
Eng — $SrCO_3$ wet with
Benzol Cumol. CO_2 C Tetrachl
Tuppentum + pillow + Nitrobenz
use Induction Coil
1/4" jump spark

Try absorption phenomena in
spectroscope of alk metals
obtained by Vacuum deposit
thick + thin — especially on
lines of same metal in
form — also when heated
+ also when magnetized
+ when Current passed
thru or when Ca + Mag
both together — also both
+ heated simultaneously
magnetized both warm

Ca

For deposition platinum + other
high mp metal on
Vacuum make wires
with surface of reduced
oxide — platt + Tungsten
Can be done this way

Vacuos deposit funny 3 metals
gives Red green & blue by
transmitted light — Then flash
them as films simultaneously
to get interpenetrating metals —

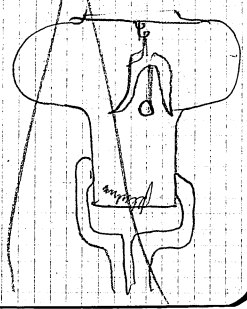


X ray slides
photos damper G
cut-off incidents
gives run on of
tube interrupted
[illegible]
Bombardment
No Cameos
under test tube

by mercury pressure

Dally deposit Carbon from
CP, Resorcin, RAbrasch
graphite pressed as pencil
also from Carb filament
flushed —

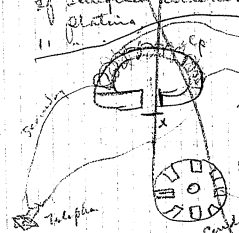
Sound in a Vacu
Seal plat foil 1/1000
inch disc in glass
which changes a leaking
tube, put in Bell &
get good Vac see if
Cathode Bell —
get X Ray Vac



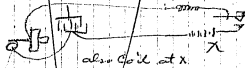
Coat Tungsten filaments with different things & see if improved to make filam life. put in 2 Carbon plates & deposit all Ulum on bony filament wire.

Try Sulphur, Ammonia, Selenium, fluorspar, Crystals, P, NaCl, KCl, phos Na, Borax, Borate and borax, Chloride and BaCl, Silicates Rare Earth metals, Tungstate Ba & K, Silicates lime, Ba – Sulphides –

If Tungsten attracted wood, Platinum



Eng –



also Coil at X

use secondary current,

Metals only –

Next hot flake step take 1/2 of it & divide thru 1/2 in 3 parts

Call them No 1 & 4 & 3

pull 1 more then Reg 2nd pull & Crumple still more & 3 very much crumple –

Then weight 10 grms of flake Cut into thru 20 & put in graduated tube & see what choke occupies most space –

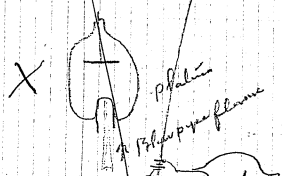
X ray tube burned in Cubic ft Solid paraffine see if sound shadow on plate. – Slit + beam light X phot size 4 x 5 & 2 if X dust

When the two beams will not photo together -

If from decomposed Cy in KCy in red hot KCy an iron wire in Cyanogen in Vac tube ought to receive Maximum Carbon perhaps Cu from H_2 solely into Carbon in Cyanogen Vac H_2 Carrier + C deposit) possibly Diamond -

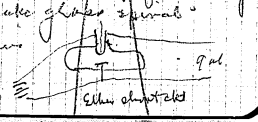
Possibly make Diamonds by freezing KCy + Chlorine with H_2 under pressure in sealed tube or with some Sulphur dissolving out KCy & Cyanogen Resist under Microscope -
or must Xanthate K or KCy with H_2 -

Conduction in Vacuum



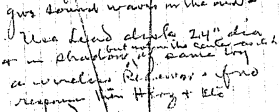
also see if telephone (with cupola) or battery Zing in Current of Tube behind is as high as Current given forward gives sound

if X works Extend the tube to 1 2 3 + 4 ft + measure Res. if no change make glass spiral +



Wireless instantaneous spark at balls of Million Sound ought to give sound waves in the mind.

Use Lead sphere 24" dia or in phonograph same way as wireless Receiver & find response from Hertz + Etc mixed —



See how far waves propagated

Wireless Perfect circuit balls in a glass tube connected to Emy & phone 500 Receiver with induction coil

to allow waves down to 1000 sec

Transformer for Bi phone —
Copper plating Cell 12" surface
anode 1/8 inch surface
Cathode, on Reversal these
in lbs magnetic Currents —
also see KOH + Ni — pp 4 & 99 4

Perhaps a Tungsten
Lamp with Carbon
wire gives enough
small Grave for used
so Can use Municipal
WO fil —

Make Aluminum Nickel
Condenser Gauze from
see if chg & obtain
Gauze also use a
Hydrated Carbonate
against Al & Ni with
Phosphorus paper between

Li Cl 6%
Na Br 6%
KOH, 21%
} Li Na K Cl Br OH,
no Sum Comm

Dup the Iron group with Ni
plate + LiOH etc with Tubes
+ analyze the deposits.

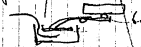
Berge precip Mn + Lime so there
is 80 Ni 20 Co then dry
gently & exhaust with H_2O
look out for Carbon etching
finally boil with Sugar to
reduce Lime —
ditto Mn + get out by Current

Ditto Silver + get out by Nitrig
ditto Sulphate Chromium
get out by Current with KOH,
get some more Beryllium &
also Tellurium

an inductive ring of
wires ought to rotate
if not that a flow along
particular direction obtains
in a BiCarb Soda Solution

Aluminum

Suspended Aluminum Electrode
in BiCarb Sol shows moves
when Current put in &
act as relays - possibly
Telephone Repeater



group 2 3 4 7 Li OH

15 Na OH,

dell's KOH, have some

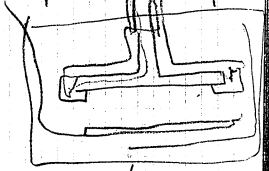
ions — of Run Gold.

Bell Telephone Receiver

Aluminum disc immerse

in BaCaNa, use disc

as one pole — use Earpiece



all Rubber

A tube which gone bad

& showed not have done

so — if bent straighten by

a wire — if not bent

wound wire around it very

tight to contract its dia

Eng — wet weak acetic

then use KOH.

also try acetate Hg

Also phos Lithium

John at Rell out CP

Zn in strips opp. & Have

Rogers perforate it —

& make groups —

Dully flush of Mercury

fill w/ oil, & put on

Lamp

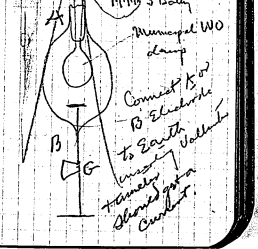
Take a Nr Tube
Clamp with CP
Nr - change it &
then resemble with
piece unpolarized Cu
Block & see if Current
also ~~[illegible]~~ another
Change & made
same way - shorter
Filled 10 hours with
Cu block unpolarized
& then run again and
Change from
Also all the above
at 130 Fahr
Also try above
with Lithe Chloride in
also Carbonate - H O P -

Mouth tube
so not break
needed glass

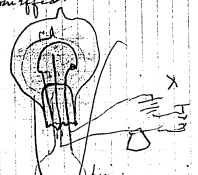
Dinitro bromobenzol ~~Remarkably~~
Large after general recrystallizes from
Naphtha some + 5 times from alcohol
Conc Alcoholic Solution Ethite
Sound when the Salt Crystallizes.
Try Experiment with X Ring etc
this sound ~~[illegible]~~

Naphthalin CP ~~[illegible]~~ repeatedly dissolved
Hot by strong hot acetone KOH, and recrystallized
therefrom by steam Crystallizes twice from
Naphtha & 3 times from alcohol
Considered to highly electric

Air has a Vallique as it recedes
from the Earth, Try this Experiment



Electrolytic



See at what Voltage of X, the maximum Current that can be sent through

KOH about 5 grms.

Group 21% 10 grms Li chloride
15% NaOH, Li chloride

Group Carbonate Lithia so as to give 2 grms LiOH in each cell

Dr G try Sulphate LiOH. Then in 21% KOH, + remove SO4 by BaOH, see if can get free of BaOH.

See if precipitate from sulphate on affected by LiOH. Or after settling in KOH, + pour nearly all KOH off + add LiOH, also.

See if H2S passed in KOH, filtering nearly Ni(OH2) affect the NiOH2

Wolke — Radial old diaphr 2" + 2 last on principle diminish leverage + increase air diaphr

Betts have John Ott. Take old big dia 2 mg + put Wagon wheel spokes on + built up dia 2/100 4 8 15 25

Wolke

This style chamber (10) small funnel

width 3 to 1

present chamber only heats up first time, does not leverage but with the above we also this ? ?

~~Vulcanized Rubber is Dark in Turpineol~~

A spark does not give a good Vacuum due to spontaneously conductive nature of metallic or the electrode & atmosphere. Elec is put on it clings together being pulled towards it like a dielectric to the armature or analogous to the break of the metal in an electric furnace. I believe with Tungsten filament the dielectric can be broken down & the current be conducted by the Elec. & very great number of phenomena be shown.

If X ray tube gives X ray by the atoms going of element hence undeflectable by a magnet then it occurs in that large part of the Vac. where vacuum is perfect & total. Take place & the reason we do not see it is that the effect is too weak to give fluorescence or photo. Could bring it out with strong current.

New principle

Use a very small Dynamic armature Rotating quite velocity and use a field magnet very sensitive a Bell phone with Alum Rectifier. This will energize the field every way and thus Cause I into the armature these will be electrified by the power of rotation. Cones vary as permeating as well as thing permeating no Cones take on armature. The waves are transformed from field to armature but the rotation slings the waves

See about strong ~~been reversed~~ so Not See (Neg are assembly or strips cleaned for Dry

Plate of Aluminum on a Magnesium Cathode in Aluminum Sulphate or KOH & with Al in presence of reducing agent like pyrogallic acid out of air Contact,

Photo, Show the Various flashed films on glass

Act on Uranium with arc furnace & sunlight acc of increase Radioactivity Use deep Bar etc

Deposit Iodine on glass & flow over permanganate to preserve it.

Thousands very fine results from Superimposed Metallic films of various metals & sunlight in Spectroscope

Measure Conductivity in Bridge of Transparent films & also when added by Ultra X Radiant Heat Radiant etc etc

Use glass Coated Sulphur & deposit Hg on it by having lot Hg in side & like heated — also other metals which form Sulphides — Something Results

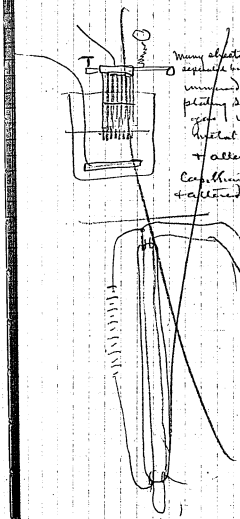
See if Mag self-generating
Current is increased by
def Chang also by heat.

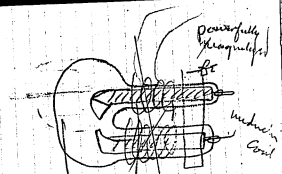
In experiments with Edison
effect wash out residual
gas with Hydrogen

also try Carbon fil + Carbon
wire at best point of Vac (or
flooding - returns to best
Carbon for a quick Current
see of Edison effect -

Also -
See if light or magnetism - X ray
affects surface of Al Radfr
at all -

Iron + Copper wire etc white Red hot
one end other end in drink
with glass plate - diffs mig of
heat (thermom on end) Doubtfully
grounds other end in Cold
bottle,





Highest Vac — no spark
then put on magnet.

Thermo electric for light

Various metals, coated over with other metals by Vacuum process so thin that light goes thru

Try platinum plated on Bismuth then follow with all kinds metals using platinum for finishing. Multiple of mercury manometer | use light with best filament out of

Try selenium cyanide

Saturated solution passed varying current while crystallizing free of impurities. Crystals at Cathode or anodes of which a number of [illegible] other phenomena of [illegible] also in Mechanical [illegible]

~~also selenium~~

Make Cell then Mica + immerse dry photo plates in sol. or then photo + make all kinds sol.

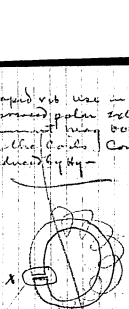
Rectifier Try Iodate K in the alone + in KOH with Ni plate Lead + plat —

Ag | Sol K_2CO_3 Saturated at 15° Cent
Specs of 1.1014 Contains 1 pt salt in
70.72 pts water —
Sol dumpling and Temp room
Heated to 90° Sol to come down
Sol 111.3 pts water - Cond fi in
Empty jacket on Compound to
Na Kl Tung — Cond

See of Current
Pt Red hot Carbon
& Cu Iron weld
Nestor Demonstration
both direction
of Current

Possibly with alternating Currents
great deposit of Magnesium
Electrode in KOH Sto with
Zn & other metals would
get light of MgO so
non Conducting —

Tor rapid vis wire in telephone
Compressed pulm selenium of
permanent mag bar, covered
smelting Cords | Compressed
75 reduced by Hg —



Magnetic Chp closed ring
Mc Donne induction Block.

With Ring armature wound to 1000
or 600 turns wire of
Pair from & other thing
Closing gap required to Sto

See also of those in a glass
analogous to all Rights
prevalent by Coating free
Grid of Ring with etc
Varnish or plate of
Brass dry metal, etc
& Reversing direction of
Pressure of water
Mercury Amalgam Magnetic Sto

Scrape Alg-lead plate or force
then together in intimate contact
Make the pile of 24 Al 24 Pb —
Then use screw or press hard
Then differences of current has
same effect when passed both
directions —

Cyanine or Rejc which
used as sensitizer for ortho
Chromatic photo plates
Easily decomp by
Light even in dark
both solution + plates
Coated handle decomposes
if kept any length time
Use for X-Y Z + X ray
+ Pellicules —

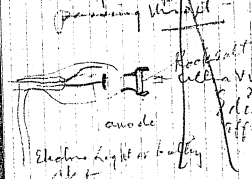
Perhaps there is a differential
action of ε impressed from
one metal into the field according
to the direction —
Thus, Zn Cu Zn Cu like flakes
Try flake sheets dipped 1/4 oz
piled on each other so 1/2 oz
each thick press together
then alternate current
so if more current passes
in one direction than
the other — develop magnetizes
it —

Auto Poly paper phoned
by fine wire of iron
Chem reaction electrolyzing
+ removing the primary
reaction leaving ground
recording reaction by
moving the paper at
high speed —

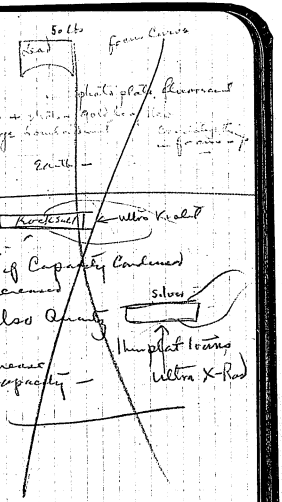
Try Rocker tube put 2 plates with equal thick Al- to see if de Sarga Compounds to + from the Earth Cannot obtain photo on plate next the Earth than above

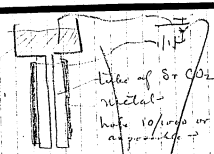
plates be exactly equidistant from the Rad in tube -

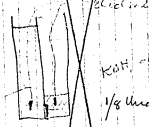
Try shielding top plate with lead X or other metals, also or shield copper with powerful Current producing Ultra -



Electric Light or battery ckt



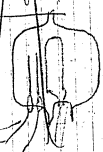




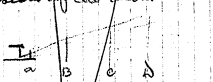
See if def pressure gives a current.

Edison effect

See if Ultra violet light from silver electrode gives current —



If Scintillations are successive explosions of like atoms or molecules then

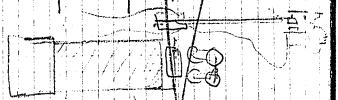


then spectroscopic act on a b c d should show different spectra

Ivy Scintillations on Neodymium Are highest Conductivity & still higher — manganese point by bubble in mercury

Absorption Cell - Spectroscope opposite direct of Lithium in def pressure def sub figure absorption spectra

glass with transparent film plat
See what effect light has
in passing thru, Current in + off

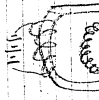


glass Reed self Vibrating
length 6 in 8 inches
width 10 to 12
Coated both sides tin foil —
+ Coat Connect to
100 or more volts — 800
Variation of freq + vibrat.
possibly with heat with Gas
Expansion (different gas)

flash plat film ditto gold
on film stick Kents (mapped in
Kodak developer Microcellulose
off —
ditto flash on sheet Zinc also
Aluminum + dissolve off by
Current in KOH —
This will show if homogeneous
+ no holes —

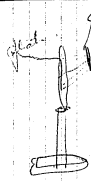
get a lot of small pieces
+ Coat with film in Vac
def metals + equate transparent

See if intermittent light from
and by shutter gives
greater fluor or phosphor
picture light in also if
fluor or phos bodies affect
matter in

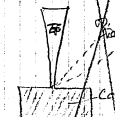


Thus charged
gives gas
in unfinished

form plates of clay
material by successive
dipping plate in
saturated solution

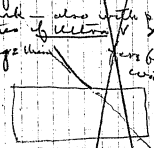


Spectro -
See if colour lines
of colours by Thallium
etc -



Heat Willemite, Balmain, Chrysopras
CaWO4 Rich hot - chilling Cooler
while subject to X also in an
Organic Liquid

see if Ether is in Scintillation
opinion — also in the point close
upon the Wolfram V X ray
discharge thing



as evidenced by fluorescence of
halo alignment, use
thin Tin Coin — dibutyl
Oil. etc
have Cover on top so
Coin see alignment

flow Get point
where scintillation
made by carry off charges
our see if get continuous
current to earth

also try Secret current
in Vac defolmaes to
see if can get Halo
discharge at low Voltage
1c 100 V →

possibly above method of
getting Straight Current
will give fluorescent lamps
& let phenomenon —
friendly

X all Cont fluorescent Wolfram tube
discharge

Try Carbons with Edison effect.

Try Scribellian in Iron in a large Vacuum manipulating point by magnet to get more brilliant & granted bright Hydrogen also Oxygen. M. A. Clerk —

Have Daily Coat piece Platinum Iron with platinum transparent also other metals —

Possibly Reason that aluminum gives no deposit in Vac is that it transparent Daily Make very heavy film & Holland test Rev. Evans) nothing apparently deposited Magnesium also — possibly the Oxide becomes metal from being deposited if so put sponger in Vac strike by Magnet & drop now & then little metal spread —

Use Helix with Platinum Wire and plate & telephone or 2 coils between — test all the things following made for magnet —

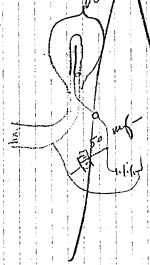
Cell made 2 glass plates from platinum inside act — Electrics Platinum film Transport

Try Electrolytic Expand with Carbon — Iron Carbon with Green light, heat Etc Unknown cell —

also Bradbury Copper — with & without light)

Investigate Nitty from over
Storage Cell —
Use more Ni small cell
allowing current to pass
over them see if get Nitty
about 30% — try various
solvents get Ni from ores —
try [illegible] solicits K.

Edison effect



Find old Kemp which
blackened end of film
inside of Condulor

100) 2500 (25 meq/mlg.
200
500
500

2 cc 50 mlg-HCl-

4)571
143
3
429

4)671
168
3
504

6397 ÷ 98 —

12 50
60

Notebook, PN-07-02-04

This pocket notebook contains two dated entries from February 1907. It was used by Edison for notes on experiments and other tasks to be performed. Many of the proposed experiments pertain to storage batteries, phonographs, and related chemical research. Included are entries describing groups of test cells, outlining chemical experiments with tungsten and tungstate compounds, and remarking upon a "new stuff" made by Jonas W. Aylsworth (possibly a phenolic resin). There is also a drawing of a phonograph reproducer, with a notation that it was given to patent attorney Frank L. Dyer. Among the employees mentioned in relation to experimental work or business matters are Thomas D. Greenley, Otto Groethe, Emil Herter, Frederick P. Ott, John F. Ott, Ludwig F. Ott, and Herman Wolke. The front cover is stamped "From W. D. Andrews Talking Machines, Bicycles, Athletic Goods, Syracuse, N.Y." and "Thomas A. Edison." The pages are unnumbered. Approximately 40 pages have been used.

Drs -
Formation New Jersey Hy[illegible] [illegible]
G Roosevelt
J Bernheim
Compt Rendu
106 1530 - 1532
Make all of them

Look up $ (and and)
Consol agreement
+ Cancel order

~~Water Tower + press in Hydraulic - dry tree if ever the powder in a few minutes~~

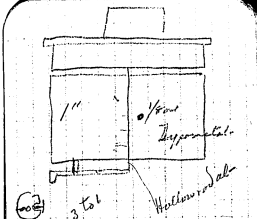
~~D. G. [illegible]~~ OSC Co. work mean work on fuelling or taking out powering powder KOH -

Dig to take out 5, + al, mg from KOH, fuling through $NaOH_2$ + other devices - fuel coking + forming -

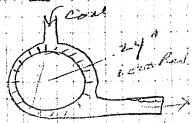
---

2934-5 = 50 7 2.0 Ws
Heat-treat =

Jolin make an adjustable pull back spring on the weight of the pendulum + double the thickness of weight or then try washer Ring mica disc from plating work - that make 3 or 4 disc 1/4 1/2 3/4 5
1/1000 1st 1/1000 2nd 2 3rd
3 4th -
Thick material - class
~~Heat 3 to 1~~ 1/2 inches
~~opening~~ -

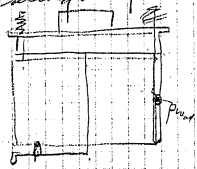


Wire dia

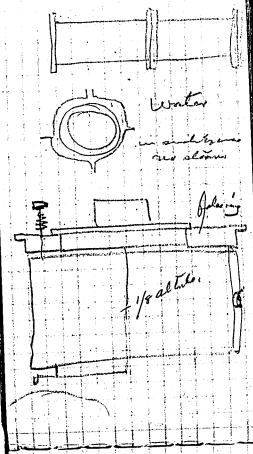


Chalked iron
Copper pellets.

See if solum has
corr. Cathode for
plating decomposition



Impermeable, adjusting to
seasonal weight.



Make some Tungstate
from Ferro or
Ferron, Red Oxide
use just as it is —
no process in
Molybdenum ~~tungst~~ Reduction by H
Sulphate Tungsten
by dropping Na_2WO_3
into dilute H_2SO_4
finely as white powder

Tungstate of Sodium
$Na_2O.2WO_3$ by
adding to fused tungstic
of Na_2WO_3 which together
~~and~~ order and it will
take up H_2SO_4 to H
at red heat

~~gold~~ decompose out
with compound tungstates
by H_2O —
gold yellow powder
+ Reg Cubic metallic
like + readily resembles
gold | not | affected
by alkalies or acids
except HF —

It cannot be prepared by
uniting tungsten dioxide
with the Dioxide WO_2

Metatungstic acid very
sol water

Made by boiling
Tungstic acid hydrated
with Reg alkaline tungstates

Most metatungstates
are sol in water
some very sol —

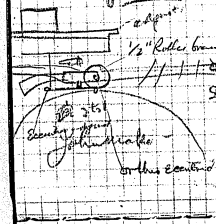
Metal — tungstate with,
boil Reg Met by WO_3
with hydrated tungstic
acid. only green may
tungstate & dissolves
boil to syrup and WO_3
separate out + filtrate
deposits Crys of meta
salt

K + Na salts same way

Na Salt 10 pts Crys dissolve
in 1 pt H_2O Spec g
3.019 ?

Tungsten Bronze Yellow
& Vanadiet –
Schmitzler Deutsch. Polytech
Jnl CCXI 484 –

See cabinet VI Nitrides
the process of Rareation
Reg. very thus 2nd
was given –



Pure Sulphate from Fe_2O_3 from
Oxalate – K Sulphate, K Nitrate
Na_2CO_3 Borax, ~~[illegible]~~
$CaCl_2$ $ZnCl_2$ KOH, KCy
KCl_O – K Phosphate, K Carbonate
KCl KH_2 Na_2WO_3 –

also Hydrochlorate Iron treated
Cobalt Nickel & chlorides incl
+ R by H. ——

Fe Sulp + Na Sulp both dry
are mixed in exactly equal
proportions + put in a crucible
in red hot furnace – Cyl. lid
Mass kept in fusion until
until SO_2 not evolved
Cooling off forced mass
extracted Water + Hydrochloric
solution of the mass is from
4 very fine crystal clusters Dabs
Obtl Jorbsot Mallinckrodt
Counts make CP Iron

Same Company Magnesium
reduces CP mint from plants in
Zeeman Wells Lake - weak well -
Mentioned Wells (2) —

Primos Chemical
Primos Penna
Tungsten - North
prices No2 WO3 Elec

Open one end Shell
pocket + pk Lake Ni Cubes
in Sections,
also 2 Corrugated
aluminum —

Also 2 Each
~~Ber~~ Ferro Ni Briquette
50 75 100 125 150 200
aluminum —

Mentle 6 groups
Mifl 003 2400, 2 bit

group series —
3 3½ 4 4½ 5
21 Hole, 26x30 — + 2400
also 21 + 26x30 +
2400 with 5 rings —

Put index on side
feeds from group
sideways

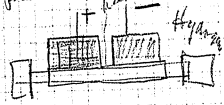
group -
of 12 3½ · 10 M 24 -
2400. 005 6 wire nat. ground ✓
A 4 rings B ditto 5 rings ✓
C Drop 12 tubes 2400 005 6 wire
ground - 4 rings
D ditto 5 rings ✓
E Drop 12 tubes 26 X 30 005 ✓
bare ground 4 rings
F ditto 5 rings ✓
G Drop 12 tubes 21 hole 005 ✓
bare ground 4 rings.
H ditto 5 rings ✓
K Drop 12 tubes funnel and tubes ✓
4 rings L ditto 5 rings ✓
Drop A to L with Spiral
Cables -

also Drop after running
on a new batch - this
½ or individual drop out
Cross line out all above
Spiral tubes -

Order Linen Towels
Etc agst out drawings
for Greenley Coffee
Mr Blake Soft & wash
Ralph A make
1 wash dried towels
2 9
3 11

find out how long
KOH 6 gm in 5 ß bricks
also show work
at different Spec g
also K_2CO_3 —

Dolly Try Thermit to weld
tubes Fe_2O_3 from oxide +
Al bronze powder — colors
powder coll. fluorescence



Trabert Try this

Recess for the lap —
possibly necessary in plunge
or just the opposite

21 Holes Mn flake
10 grms KCl
Punched holes 10
KCl —

Try Mi Monobasic Cathode in Tungstate Soda of it deposits blue ox also try Metal paratungstate which are more likely to work if deposits blue then reduce ~~or~~ rather change over now then soak in the Na WO sol several ~~months~~ hours & then change current to deposit blue ox with metallic non-

Make a Soluable Tungstate of Iron & then use it to soak Fe_2O_3 — also to mix with oxalate, etc

Ammono Ferric Tungstate is very sol in water

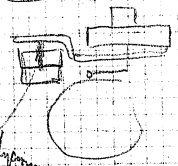
Possibly Nickel Ferric Tungstate are also sol

When Tungstate of ammon is heated to redness it decomposes the Blue Ox WO_2WO_3

Cooked up this with Fe_2O_3 also Ox salt Fe

[illegible]

Dyerpatent the
new blanca for
changing WO to
2nd Hand
phono abroad



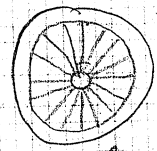
g/porm
Anode part
possibly springs
hold down WT

7 2 80 Sn 20 Self Hemp
7 2 80 WO 20 "
on Hat Reel -
Reverse once wood

John to make plating
blank for anode
or dies for phono
Valuta 4 anoda

greenly to plate

also



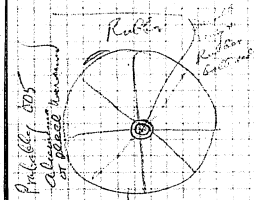
deep Corrugations

John Catt to give
tried Catt when to
make tubes, stamit
seamless — distinct
tubes in frame

Recd J R Calbraith made
that [illegible] would
[illegible] [illegible] —

on Bag Weight
Repeder as soon
as finished
add a dash,
put glycerine
& adjust so
only 10 grm
required or 50 pressure
on back — If the
dont go put prepared
wt on when
a Conveyoring spr.
pulling dia up
To balance wt hand

Then will make
it similar —
after trying segments
with shoulder dia
Make 2" Cor

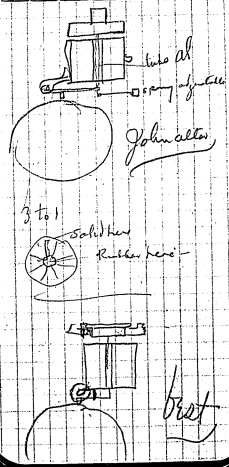


Ultted OD!
+ Rubber pushed down

also 4 segments
of the 8 OD Cap
+ do away with
slots + rubber
over cohake
surface

ask Dr. How
he made the Sample
72 Mn
test our Fe by
dis in HCl +
prep by MAA
+ the made MA 702
on MAA 702

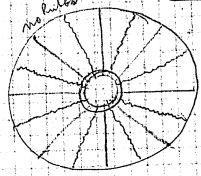
Make up new pkt
Fe 65 Sn 35
give to Halland
to change +
then dicolling —
give KOH to Dr G
Dr Tu —
then Reversed
give KOH to Dr
Vo



Rubber band

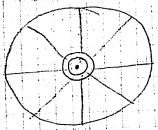
900 D.S.

no rubber



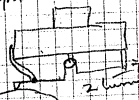
2 dia 1 split 4 section
one over this 8 section
staggered to close split.

also



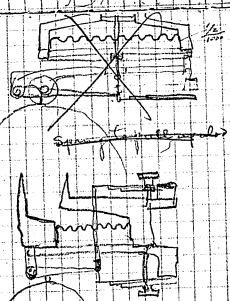
also 1 dia split 002
apart (thin metal pipe)
over whole or one piece
very thin don't let pieces
come with 3/4 of 2 layer
use thumbnut rivet
we got some from Dom last.

Change the section Sophin
Repair To!



Gw a Moved Reg Record
Both New stuff loaded
with Examples to discover
the Mistake, as I think
we have at last off the
0006 examples by
Electricity

in 1874 or 5 Med
Magazine Old Record
published Electric
force possibly the
popular science or Van Nostrand
Mag.



good Nat & Sul
300 clamps
Deep with 5 pins
Must have at 2207
Cost add 15 %
Extra 200 made 15504
Over

Gatling use this 160 on 200
matching 200 —

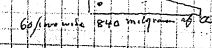
With 160 grain on ball 5383 feet
per sec mob - .002 mercurial
or 13 inch vacuum.

w slower speed higher or accepting
the over time, water, if flow
the pressure wipes them out.

if ... twice as long
it will take longer time to
wipe out.

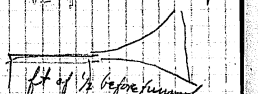
Weight with barrel fell in
160 miles 1" down the
ground.

Weight magnum dia 1"
10 deg 160 milg - 1.2" long
of tube bullet .003 thick outside
15 milg Al. Lead 1.25" 350 grs long



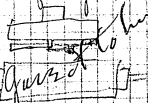
60 grs wide 840 milgrams of Al

weight total for heavy drag etc
if magnum about 600 milgr



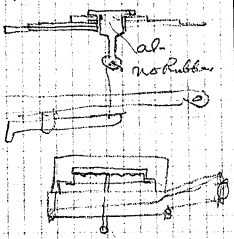
fit of 1/2 before summit
to get purchase on air
after

Draw out for Dyer



Entering angle 45 deg

for Ka Spirit dem Plum



Piston dampening
for the cordless
Sept 4 1907

2 groups - 26 x 30 Spiral
1st Green under bell
Jar with water all
night -
2nd Dried 3 hours on
paper on hot plate
used hot. 26 x 30 spiral

test that good KCl
Co little thick drill
pipiff with $AgNO_3$
OR hot KCl

see if 4 hours 0035
Spread on 33%

Sell Walter Miller glass
spirit 1/2 # 4 to 6
Lutro strips funnel
Sounds for Piano

John att atty and mr Billy
Trundel Rickford
Have Rogers come w/ eco and
after Hottys on fellow so comm
see fellows —
Drawing was pattern spoke
with weight roller

Geo Moore —

Julian about machining
another measurement to
give more travel to
slaughtering
to try support punch
Rubber see what
size sheet rubber
necessary —

Fred att lengthen & have
less width to grow
fiber reciprocator

Louis att cabt Copper
also tell Ralph
7½ Nickel shield hood
Copper for high ratio —

The good Tin 7½ now so why
dipped reciprocate
Customer wants more Ceballos
tubes

try Ni flake group
1½ spiral wash
Hard Rubber Shavings

Ceballos wash 5A Mulg
Sulphur

Emf - use aluminum
Holder for chalk
Cylinder for
Direct Currents -

Open up after
drying a soaper
distilled H_2O
The iron that
was ~~understood~~
Iron work Hg
Cu - get used up
a Gr. Ammon

Walke the 2
Home mandrils
fit new devices
to them -

~~See Hedrick~~
~~Hh 25~~

1 See Walke about the mandrils
~~2 Dig up about Peters Cement~~
~~what to send to me~~
3 - Enlarge Carpenter's pal
~~for Hg - Cu - aluminum~~
4 get 100 -
5 . 00 -

4th group 33 100 mlg Sul
21 200 "
+ Under on Spec - Sul
see if p[illegible] Sand Rub
1 - 100 mlg Dilution in
Entered on Spec Sol Book

~~Coal Book~~ -

7 L Off report twice weekly
now send Sample S Lake
Numbers + Ash Content

8 = Ice Water Gr good Co
greatly -
also to ~~take~~ several
pound ~~test~~ Mr Florio
for Johns Coal Machine

9 = Put 5 cs mlg S in
33 + put carbol libs
at end month draw

off a little KOH +
have Dr 9 test for
Sulphate or Sulphide
when I return will
weigh the Sulphur

10 Dyer - 9 ~~do~~ not agree
phlow ~~[illegible]~~ dust 1/2
phosp ~~Rock~~ -

11 =

Kruger Andelson
25 Belmont Ave
7 pm

A 2.58

July 1 72 5,250,000

3,750,000 cm

62.500

12 - 125000
625000
750,000

296 | 7.875

16 | 100,000 (62.500
96
47
30
32
80
80

1 mil 72 7847 miles

1000 | 7,847 533 - (7847
7 000
847 5

3 000 000

7847 | 1 000 000 000
3 5 000 000 000
3 7 6 2 5 000 000 000 (7847 533
3 500 000 000
3 122
378
3 0 0
2 1 8 4
1 7 8 0
3 9 6 2
3 2 3 0
2 3 3 2
1 6 6 3

Aluminum
22000 cu mil
To 1 ~~[illegible]~~ Mil

AD-C20-C20-Nd

Notebook, PN-07-03-02

The one dated entry in this pocket notebook is from March 1907. The book, which was probably used in part at Edison's winter home in Fort Myers, Florida, contains notes by Edison regarding experimental work and other tasks to be performed. Included are experiments pertaining to x-rays and "xyz rays," the "Edison effect," electromotographs, electric lights and rectifiers, "wireless," and batteries. Some of the proposed experiments involve the use of radium, photographic paper, fluorescent crystals, and cocaine. One experiment involves the lamp of a projecting kinetoscope; another relates to the growing of a plant in the dark while watering it with chlorophyll juice. The entries in the first half of the book are more speculative than those in the second half and include a reference to an unknown ray in the ether. The last page contains a list of landscaping tasks at Fort Myers. Among the employees mentioned in relation to individual experiments are Ralph Arbogast, William G. Bee, Thomas D. Greenley, Otto Groethe, John F. Ott, Ludwig F. Ott, and O. A. Rogers. The pages are unnumbered. Approximately 120 pages have been used.

H. M. BERTH & Co.
STATIONERS,
21 & 23 NASSAU ST.,
NEW-YORK.

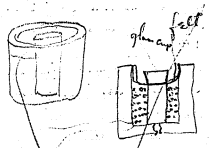
PN-07-03-02

"K&T"

March 2nd 1907

Use radium near surface of
Chalk on Ellmgraph - lead
shutter - also if get sounds
try a lot of malleable metals
or oxides metals Etc possibly
other radiations may be found
most observable by
Elec or photo - try
X ray tubes & light Etc.
also diffusion of chemicals
to test Chalk cylinder

Use of Radium & X ray
after Capillarity
in glass tubes of
any accelerance -



Crystallizing — Magnetic field

Crystallizing fluorescent Crystal in closed box in dark with H_2SO_4 to absorb H_2O use cold saturated solutions. see if more sensitive to grinding or to X + Radium —

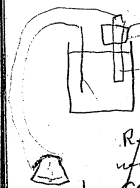
Run down screen of chemical gives black spots on photo plate,
use 50 mesh screen gives black paper + have nothing press on photo plate,

Run down using H pole of Lead gives black grounds on Chem paper —

Try Dessoul Nerve machine — working power by wires —

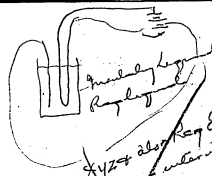
Use Sodium salts near pure Bunsen flame + use Spectroscope then Let Radium + X ray strike Crystals + any Sodium Molecules fly off into the flame should get Na Spectrum 3 millionth of Milligram in distilled

See if absorption spectrum
of the alkalies surf also
changed by X ray or
Radium (remember third
item – also flame spectrum



Run set up with
with acc combustion

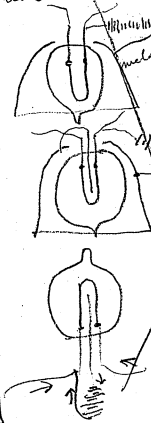
for Elec also try
242 pressure, interruption
try Emly on it –



242 also try Elec
+ Emly + interruption

See if Al_2O_3 can be deposited
on the heated metal Ni
for insulation to permit use
as Electrolytic condenser
if so try Beryllium also.

Exports to neutralize Company in Incandescent Lamps



With Carbon Lamp use of Lamp with deposited metallic film. Make Carbon use of lamp with use of current source)

Try Bengal C.P. cell - Metallic Electrode one Gave the action Coated with a solid substance by dipping in a melted sol of a substance which dissolves in Benzol & use intermittent break & XYZ or Elec of Lamp materials -

also try Acetone only acetic 30% Conc Acetone. Use melted solid sol - these liquids which cling to Electrode try various metals -

Try precipitating in tubes
in a battery - also
powerful magnet poles
also prepare colored
precips in dilute acids
Fill dry & then water
Color -
Make Crystal alums in
dilute acids &

See if can photo
Spark of aluminum
with Condenser Control
Scintillations - also
Cerium, Mg & other
Metals should give
colors

also make alloys metals
& see if can roughly

determine % of each
by eye -

See if magnetic force
also surface tension
of a drop - def Chemical
also height of
def drop - if in
Capillary power

also absorption spectrum
of def Chemicals -
also X ray Rhodium
Hydrolysis by Bi Sulphate
& then Electric furnace
flashing -

Rundown action that
dissolves or weakens bamboo
splints, flexibility, elasticity

Apply Radium tube to
a pot flowers plants
piece of in time it
will affect it like a
human being —

grow a vine in pot
in dark — water it
with Chlorophyll juice
from green plant,
see how Radium acts
on auto ditto X ray

test in Lab wireless
where alternate is X ray
tube — ditto ultra violet
from arc light etc of
measures equivalent

wireless Receiver telephone
with tuning fork attached
Each day tune with
damper on fork
also an resonator (tuned
to wanted note.

Dry Aluminum Condenser
in glass jar with
moisture or Aluminum
Cooled Thin plate of
pyro Soda.

Energy - Structure Carb
cylinders - monolined
with aluminate K.

Succinyle Tetraethylammonium
iodis into concentration -
Urea & Cinchona Tetra -
Sugar with Lime -

Measure Repeatedly
of Various Magnetics
Mechanical & anti-frictional
open & various ways -

Manganese alloys
Heat Lab. Magnetics
Try make by
Chemical precipitation
Shells Chrome

Dry osmosis -
Cell with porous partition
def gases on either side -
Light Heat - Magnetism + Elec
X Ray Refrac - Sound on
one side to Cause gaseous
dissociation - to detect def
pressure use U tube
with water ~~one drop~~
~~bubble~~

of Liquids Water is best
Carbon tet + the worst are
certain Ethers such as
Ethylene bromide
amyl Iodide, Ethyl Iodide

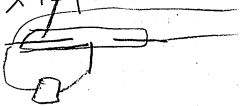
Tetraethyl de Carbon in
the ordinary air of
gasoline garages

4 @ 6 inch rods 1/2 dia
in powerful Helix Current
Silver disk Carbon or telefone
See if hear sound of the
Expansion of different
metals —

Thermo along glass
Iron or other bars —
Vibrator Connected
therewith (?) Each
Iron — or Mirror gals
& make arc at end
see how quick heat flows
also platinum red hot
+ sudden quench —

Think Edison effect
will be shown on
alternating arc by
Coupling P of Vts a
gold or therefore to
polished platinum head
near arc so ultra
Violet strike it —

Probably same thing
in Vac Tubes —
X Ray Tubes —



possibly the Slides of Crystals with black paper & lines on Dry plate & Exposure to Sun that Sun will cause some Crystals to give a ray which penetrates the paper a record use screen 20 mesh - over dry plate

also try with Hydro & Elec arc —

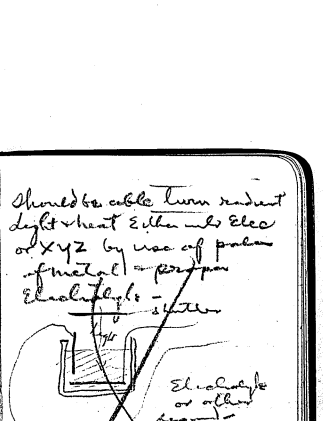
perhaps a coil of short wire like a sounder spool. Key like ala Ether powerful Storage Cell & wire Enclosing in disk held over Slides. the slides being ~~[illegible]~~ laid on grounded Labs produce fluorescence of Crystals are tuning forks

possibly Crystals land over number the click of wor[illegible] [illegible] high note

fluorescent crystals made of a powerful low inductance helix make & break also with keying for the —

Take a plate & connect plate to Sol a battery & put tin foil around it. Use 2 plates put current thro each plate diff direction. Energy action on Dop —.

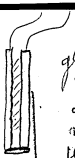
Should be able turn radiant light & heat Ether into Elec or XYZ by use of probes of metal — perhaps Electrolytic —



for detecting use Revolving shutter — also used pulsing and height of pulse a sound in the ether or absorber

also use gold vac deposit that lights gases through

possibly all rays except
one roll Vibration Osc.
filtered out — or Ultra
red Strike one pole —
Ultra Violet the other
possibly with iron, nickel
Ultra Violet it will ox
+ use Ni OH other pole
possibly Thermo elf —
2 Vac deposited metals
Ultra Violet goes thro one
or Red thru the other
etc
all these are so very
likely to give X.Y.Z.
hence try [illegible]
Reasoning



glass ball
Vac deposit
one side dif
metals —
Third metal —
Light shines thro
gives X.Y.Z —

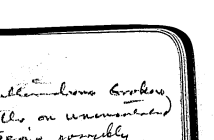
By Commutator Rectifier
for Quad — 4 cells in
on the side of pump
of Condenser around —
Relay make it
short or
shunt —

Put strip with electric
acid over it & in 1½%
KOH, with NaOH or not
Elec. should give current
as electric discharge
Electr. fill — or Cond
Condensing discharge

Insulated wire ground
Ground metallic ball
Try X ray on wire
Jar of Electrodes
with Sulphic Zinc
acid — to see dif
metal Conductors

probably Emg on unusual
its output will show that
a wave goes over wire before
it does the wireless
by alternating current
magnetic & mechanical

by output alternations broken
up into little or unusual
waves — series possibly
at receiver if cells refining
Try wireless of this Current



Insulated layers
See if X ray
Comes out —
with gold leaf
Photoplate
or fluorescence
Try Bergul etc

Use of X ray - Radium
increased or decreased
absorption through
Liquid in solution or when
in the dry or Electric
Stress - Shielded
Hot.

X42

different solutions or
Metals -

Rays lower than heat
but higher than sound
possibly detected
by very light mass
Emg - + Reflecting
shutter - shining on screen
of check

also on a cell with Electrolyte
shining on the anode or
Cathode - or a current
passing - depending any
Zn ~~Lead~~ the ray shining on
anode or Cathode.
with Shutter, possibly
low wire Coil -
possibly Al Reflector -
wet or possible dry
possibly some metals cut off a ray
after the transition.

X42 Cell -
Iodine or Br dissolved in
insulating liquids -
different for Electrodes
~~other~~ rotated or Emg - +
X42 Recovery - Carbon not
attacked.

Cylinders of Oxalate
difference in Emg possible
after fraction of a cm
light - Shielded

also cylinder of other
things giving pneumococcus
fluorescence –
ditto Cupro-Cy K & X ray

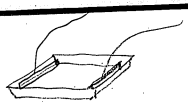
Try Edison Effect on
platinum Incandescent &
Incandescent Lamp –

also Horwell flash
with Bi Sulphide
Carbon & Lead
electric furnace

Against Asphaltic
& Lead with
Sulphur so dont melt

Silk thread dip in
asphalt & sulphur
many times & dip
many times –

Rubber surgical fabric
dip in asphalt & sulphur
Redip a so on –
ditto Oxidized Nitric
will Asphalt be acted
on by Hot Hypochlorous.
Soda – ditto Bromine
Hot Chlorine gas –
" Hypochlorous acid
gas –
Hormones dissolve in Ammonia
etc – also Hormones decomposed
by Hot chlorine & Tin –
Try Nitrogen Sulphide
good enough make fulminate flow it
Urine also polished odor or glass
act on Chemically Urine filters
organic – fumes perfect antiseptic



Pass powerful current thro liquid while crystallizing slowly - use thin ~~[illegible]~~ plates so they get heat of solution quickly.

In many ~~[illegible]~~ cases the ray shows the surfaces of shock cylinder although the high speed of solution so the effect may be very short.

XYZ Rays (capillary tube with Hg on 1 part + a liquid in commutator) have thus given - attenuation of central gas rays

Crystals while under fluorescence or phos - Electrify - Magnetize pass light thro Iodine or K. Sulfate + also colored liquids.

See if needle like crystals have any "directive force"

Exp - with chalk & crystals & hard crystal on pan under cond of metal -

XYZ Rays (Exhausted tube with capillary 36" long filled Hg) - Ray strike bulb -

X Y Z Rays

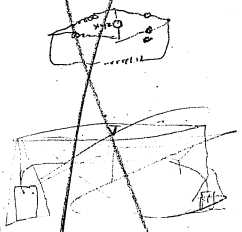
2 Electrodes sealed in
build - Capillary tubes -
therefore - Non Electrolyte
Rays change Capillarity

Electrify a platinum wire
the Coop - Gold leaf has
a set in Quantum of Charge
see of Spectra pattern -

See of Radium X ray
alters Electro affect

see of Drops P.S. of C
in water column affected
by E mag or X Y Z -

Emg - galv Pto Galvanometer
in Bridge - Large Voltage
4 cells, one Rung alike
to derived Galvanometer -



Emg - Trey from Electrolyte
to wet + E also X Y Z
rays etc -

XYZ Rectifier a wire dipping into Non Electrolyte with a drop of Electrolyte on End –

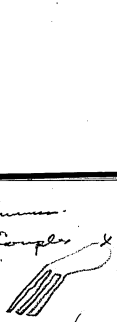
dith a capillary tube with Electrolyte in, immersed in Non Electrolyte –

Dry fluorescent Crystals immersed in Electrolyte then Electrolyte –

for the dead short old Leclanche use 10 cells Reg Nº 92 storage battery best only Zinc plates instead storage battery plates this makes a wonderfully low Res

dead + alumin.

20 or 30 Couples XYZ



Radium X strikes – powerfully gives Z or XYZ

Res of X or Radium ionize non Electrolyte use Current – also use Aerials + Cathodes of metals, –

fluorescent Crystals Containing an admixture of Iron Salt, then Magnetism + X + Radium Vibrating Magnetism also –

Opalescence in Tube by precipitated sulphur act on by Light Mesoth X & Radium with Beam light - see if altered

Try other precipitate - Ferric,

Try X & Ra on fluorescence in liquids which do not decolorize the Crystals -

Subject lead in crucible to very high temp Arc Light - afterwards test for Silver - Keep it going 1 hour -

ditto Manganese

test for Cobalt -

Copper test for platinum & silver -

Iron & sulphur test for gold -

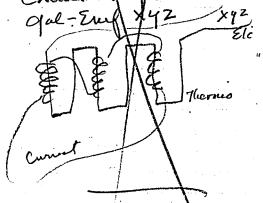
See if spectrum or line spectrum changed by subjecting glass prism to X ray

Radium Magnetism

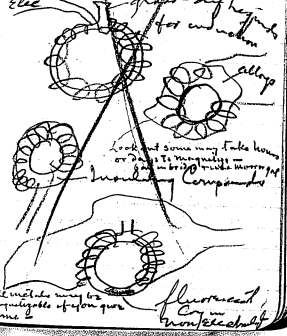
Elec stream -

Rec of beam light deflected
from polarized surface
def alloys in Helix
magnetized –

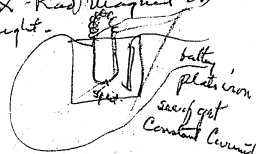
Sheet flake – Ni Cu
60 or 80 thick
in Helix – Each side
Commutator by wire to
Gal – Emf XYZ



work out experiments from the
analogy of a coil doing
work on not same direction
as current in charging or
a storage battery surface
Capacity doing electrical
work – giving current
in opposite direction –



See if change of Fe Ni
Storage in helix affected -
also my lower case by
X - Ray Magnet on
Light -

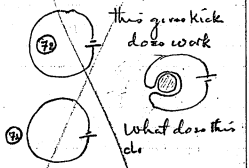


on Mirror gal

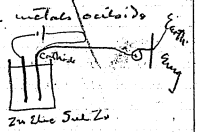
permanent magnetic wire

If Magnetic self induction
is at square of the length
of the choked low current
then Magnet 320 ft long & closed
wound with wire will take
16 min to charge & charge
1280 ft gives 4 hours
heard in 1/50/sec for 100 ft wire
electric

This properly proportioned I.
work on right part of calculation
Curve showed gave a good
Storage battery for RR work
when only few minutes
count Current.



try B. & other metals oscilloids



Fluorescent Crystals on back unshielded from heavy deposit

Zn under Cathode sends waves & agitate Crystals.

Fluorescent Crystals on face, may alternations.

Iron magnetized may be decomposed into 2 things Fe & O. Fe by itself does not show magnetism. O by itself does not show magnetism. Iron & O combined form 2 kinds iron or other minerals.

Income of the battery work is done by changing potential of Fe & O. Current is given in opp direction to original current, changes with Iron. The current is in same direction hence there is combination

of something on changing decomposition on discharge. The new molecule combines with itself to make a new kind of Iron Molecule & then decomposes when current goes off.

As Fe salts are magnetic they should give deep reactions when placed under magnetized

Try precipitate Fe with HS — oxidize — discharging iron from a Ring of power Fe. Magnetized — test for Mn Co Ni

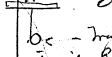
also if this fine New Carbon due to Magnetism then Storage Battery changed iron ought to be affected in some way when powerfully magnetized.

also try dissolving time of an iron ring charged that chg magnetic action

put Eng in current where
plating & decomposition taking
place & also in sounding
of Coil in producing effect
of Voltaic plating & decomposition
of Volts take place notice
character of sounds –

To detect waves of higher
note than Eow can give
fasten to chemical compound
packet with fluorescent
Crystals also a thermo
or where a wire rubs or
detect by galv
also by rubbing on a chalk
generating a current.
also control sensitive flame
also mirror long focus –

Ox – Transformer &
Clean materials Rep alumes
Using Cylinder & allow
friction –



Helix – plane with various
metals

Use cell Telinchl Carbon
Ag Hg Pb Electrodes
High voltage Current see
of decomposed or Ag Cl
formed – also Vitrate
the Voltage –

a magnet is sensitive to jars
use telephone + let X rays Red
+ X42 strike end of iron
or rather permanent steel
mag - use high resis ray
coil also few turns
Connected to Emg - or X42
instruments, this would
turn vibrations between
light + heat into Elec
power using already Gemade
of very fine steel hearings
+ magnetized in vacuo.

Dry storage - that pri sheet
paste 5/1000 (time 17/08 moistened)
1/1000, 10% - No plate proved porosity of
Reg iron sensitized 10% 1000.
Lab one on top then
sheet iron, paper, asbestos -

Melt some aluminum by
Current in Vac, get
percent of unmelted
oxide - notice
peculiarities of the
pure metal,
analyze residue

See if oxides or compounds
having same specif
gravity as aluminum
will alloy with it,

Drop of liquid on paraffined
surface of watch glass
2 platina wires in
X42 mat.

Watch glass g manufactured
liquid drops - try
magnetism X Rod with
dif metals as electrodes
also effect of drops g many
thoroughly -
Ditto glycerine surface
or drop non electrolyte

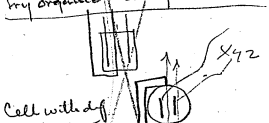
glass tube
Electrolyte
alternating & DC see
if liquid rotates
use opalescent sulphur
& mercury

Vacuo deposit Metal thin
so see thin film assumed
with Coil rate if affects amount
of light when magnetized or not

perhaps aluminum wire
in Sea water would
mantate up.

See if 3 g block of
Cocoanut by heavy pressure
press hard near a smooth
surface wrapped in paper
Effect of heat in
time -

Several small porcelain Crucibles
○○○○ Each with saturated hot
○○○○ Sol of salt. Very thin
○○○○ aluminum plate over all & dry plate
with 20 minute exposure see if
any X-Y-Z ray photos on Crystalography
Try organic & inorganic.



Cell with dry
Electrolyte
solution.
one Electrode
guarded for X-ray by
Thick lead —
Shutter on X ray — X-Y-Z Recording

$Mn(OH)_2$ is ionized enough through
solid aluminum Cond. dyt gives
green according to Ostwald
Try many Elec. systems X
etc to change color —

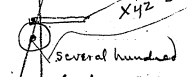
Is $Ni(OH)_3$ magnetic,
diff. Co

Ralph's precipitate $Mn(OH)_2$
with 10% of Every other
permutable metal or chemical
Materials or Reagents
1/2 wash wet filt low
heat, —

also plan $Mn(OH)_2$ from
Materials + Chlor. de
1/2 W wet filt low heat

Crystalizing organic substances
hot liquids under electric
stress Galvanic Electrodes in
sol - use 125 Volts - also
alternating

Crystalizing both organic
inorganic Colored crystal
- dark - also under
arc Hg arc. X ray -



Rev mining - cylinders & pieces
for to refuse
also magnetized

in telephone circ connected
to Tuning fork also
add a Induction Coil
of such inductance that
it will be in time with
the fork

Marshall
find out from the Neff man
who makes Condensers
if he makes an
artificial Cable -
W

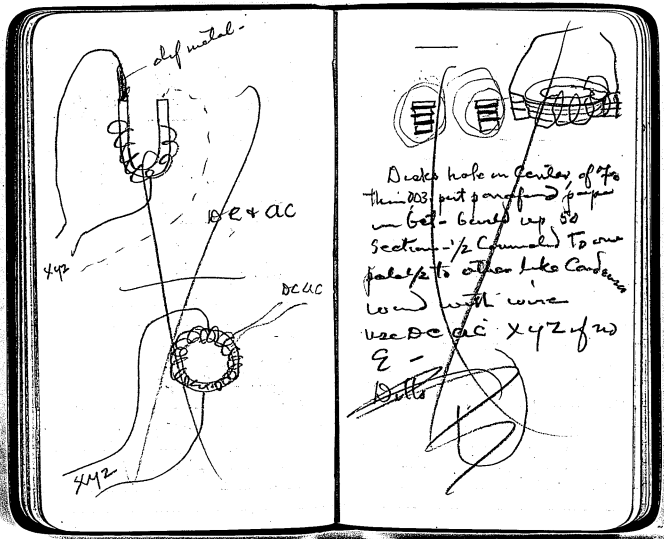
Dry plate see
if offered

Wd. Eng Cylinders with
plating solution - will have
to use opaque etc for cylinder so
Solution dont affect, Indelible
Cold so no deposit -

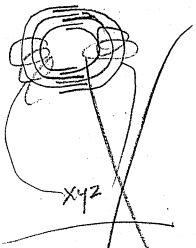
Plating Cells with porous
Cylinders, soaked with
Tannic Fe, Cu & other
precipt to close pores
fine & close deposit
Cu etc on the porous
cell - will lead to Smelling

Make an insulating which
has iron in it - Enough to
metallurgy To dissolve clay
as gilla or Iron act
just the opp on clay pulling
the 2 together ought to
Equally heal or keep the
effects + permit repair
repulsion or spindled
Iron wire or aqueous
Cloud rings

Closed nose ring with
few turns wire in
bridge to deflection Kick
then put whole in
Oil to give hydraulic
press act of non gas
less Kick -


dry metal
DC & AC
XYZ
DC AC
XYZ
Drill

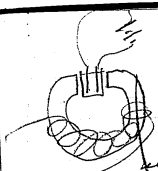
also



Coarse charged
& finely divided
metals

column Hg

XYZ Elo



Zepolo Zesoy
Sol

see of all
Voltage
according to density
of plating

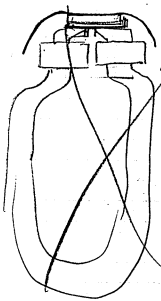
X-ray break wheel.
& little Ethric Coil
dittos just breakdown
Coil in Vacuum

get Surgical Elo of Rare
metals Mellaceforms
Especially Tellurium
& make alloys with wire
when heated [illegible] 82,304

Try one Ring - flow with metal
faces [illegible] in dry electric
Rubbing on Metallic Cylinder
use
[illegible] Current
see how friction is
use micro file

dia -

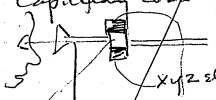
Try lot Reports May [illegible]
Electrode in Kott
Mott Lott. def
Metals



Silver carbon
[illegible] on iron
Telephone Receiver

Nutmeg
Cocoa
Spice
Pepper
Lace
Mahogany
Cinchonia
Coffee
Tea
Jonqua
Calabash
Pecan
English Walnut.
Grape
Brazil nut palm.
Licorice

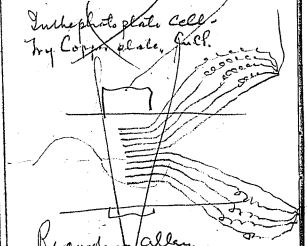
Parallel a beam of
Light, X - Heat through
a long hole very fine
Capillary Zero - Black



Different Crystals -
Rock salt - normally
its in line, a movement
of 1/100 made it
absorbed.
Use Elec Glass-Mag
X Red XYZ -
Sulphur as well as
Crystals - also use
Spectroscope & absorb
Sal Comparable absorp
To 0001

Surround solution w
Crystal with halix —

In the photo plate cell
try Copper plate, fuch.



Recording Galvanometer
Connects

Gravity Make Some
flake w 1/4 thick
for rolling on grain

Flash Copper wire / coil
with Carbon, glass out
Copper & Silver in
furnace tube of
Carbon —
Ni wire - Red hot chromic
to Valcolate the Ni —
Iron wire dittto Valcolate
as chloride —

gravity Reg graph
mix
2 Wt flake —

after viscosity tried
tubes various kinds
of solutions by X Ray
Red & E Mag + X ray

Ions probable come
off everything —
possibly accelerated
by E forces Mag
Heat elec — X ray
accumulate on
charged paper giving
a color
pass X ray through
+ catch in Reaction
solutions

Amount of conducting
& non conducting powder
& amount fused so
resulted Space 1/4
of conducting particles
use high voltage
jump in air & vac

Aluminum Rectifier
with a plating solution
to demonstrate heat.

Aluminum plate polished
& coated dipped in sol
used as dry plate photo
:

Passing Aluminum plate
in certain solutions
good for Cathode ray plate or
other good

p 55 – polished plate in lime water at room temp – dight working in plate room temp at bright pressure – solub by CuO dummies – deposits on plate. gives $CuSO_4$

Try glass tube with graduation Coil through Aluminum Rectifier –

Aluminum Rect by keeping as to Electrodes one being minute large than the other

p 55 – silver plate with Ag nitrate by H. to get black – cell has chlorine light common solute chlorine formed

By D. –

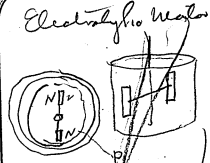
Dotts plate coated Chloride, Hydrogen in Cell – light common decomp

H takes place almost wholly

Copper plate Acetylene gas in Cell – light common formation C_2H_2

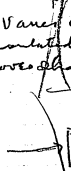
Collodion plate with Reg silver on it part in Cell in presence of H_2 light see if cant get rid galvan

Electrolytic Meter



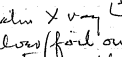
2 vanes opposite sides mounted gas former moves shaft.

XYZ

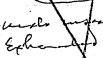


e f electrodes def models liquid in cell absorb X, heat light Rad absorbs ray passes over Electrode in some form.

Gelatin X ray film — Silver halide outside ray light off aq. of form AgCl deposited Degradation, light blackens it =



Liquids metallic — Ephemeral — XYZ ray



then pass current & test against def concentration opposite absorption

~~Photo Neon discharge also images by Reflection (to) prevent light thick lattice [illegible]~~

~~Tube blocked using 2 beam light right angles to each other Electrodes among the affect the light also by Spectroscopy also shutter on beam Electrodes for X Y Z~~

~~Vg~~

~~chief legends~~

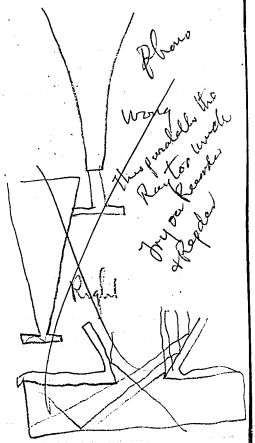
by delicate thermo & galv see if phosphorescent crystals are heated temp then affects

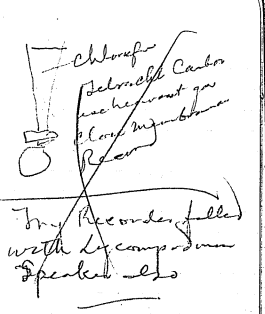
~~Solid Wire etc, thin foil Eng Gases X + Rad light — Rate of change and Conclusions~~

~~foil coated iridium precipitated CaWO4 X Rad pass of charge & Elec also Oxal Lithium Balmain Ord Light~~

Arc light Kenotes
Cloth saturated
Oxalate Lithium
So less platinum necessary
Try other salts
If particles thrown off
from Anode and of
course on over
Exposure Chlorine
Iodide Br Flo the
platinum Sodium
Catch thrown off
particles in Colored
Reagents

In chemical reed
pens - try all metals
with def solution
Anode & Cathode &
develope with
reagents giving
Colored precip
with deposit of ox
Cl I Br Flo left
on paper etc.
Telewriting
Patent usage
(Le) marks


Phono
Wrong
Thus parallels the
Rector under
Jury on Recorder
of Reporter
Right


Chloroform
Carbon
Tetrachloride
Inactive vapor gas
Recorder
Jury Recorder filled
with Decomposition
Spoiled also

X ray tube thus

disks of platinum facing
Each other Mica ring
.0001 between —

Perhaps there is an
unknown ray in
the Ether coming from
some direction + use
X Y Z units connect
to plates deflect kind
move in add direction
also use shutter

get good gold leaf must
for X ray Rays

Possibly some Crystals
subjected to intermittent
impulses of diff known rays
will change the ray
to X Y Z

Reduce some CP WO_3
to metal, flash it on
Carbon fila by Vacuum
process — dilute on
Copper + dissolve
Copper by flake
solution,

Write Dr. Ly to make some WO_3 + have Ralph reduce it at White Heat + try it — also a 80 Fe + 20 WO_3 at white heat.

Measure Elec Conduct, Expansion, heat Conduct, Thermo Elec Cap —
a tungsten X ray of deposited Metals —

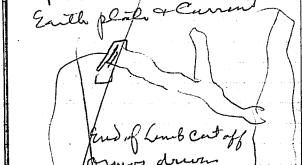
perhaps end of cerium with powerful ~~[illegible]~~ high voltage, alternate or straight using wheel break will project particles sufficient to effect Aluminum
Volumite Elec Column
$CaWO_4$ etc —

See if longing of semi Conductor Tantalum is increased by Light Mag X Ray.
Electric Stress, Phosphorus

Turning wax electrifies
Chips - probably one
Rind wax made P
another negative -
put both under lagging
& burn quick with gravel
metal for leads just
a Current in an electrolyte

Put leads in Vac
Rub on gum Copal
varnish with Rodinal
just light!

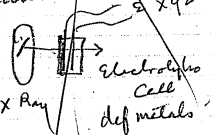
Lap Camphor Gas
put electrode at Lap
Earth plate & Current



dittto Cut end of limb
fit close with glass
Cap + rubber to
Establish Vacuum
draw sap into
Vac -

Throw acetate Lime other Lime Salts over Coal see if increase radiant power of flame or Coal for Domestic purposes a Lime salt that will puff out preferred.

Metallic Tungsten for X ray Electrode impinging plate melted that. Cant melt it —



See if any diffn Kick of a closed ring mag single winding also in high Vac as against atoms in air.

Try Kick of chas in perfect insulating Liquid. hot + cold subjected to X Ray + Light.

Calculate out number of metal per pound when drawn into wire - diffs atomic weight. Eg amorphous - Electrolytic series, Sol in KOH.

Wind a coil of iron wire
mounted, 1/4 thick around
then wind reg Copper
Solenoid the iron Coil
magnetically measures
the Res of the iron
then demagnetize + measure it
Try nonmagnetic metals
as well, also electrolyte
ring with plating sol +
Electrodes & —

Double Salt of Uranyl
Lime + iron ought to
fluoresce by propagating
alternated Magnetic wave

also Benzoate Ferrous
Ferrous Zinc Silicate
Ferrous Lime — Ba —

Try all Iron salts with
Rapidly alternated Magnetic
waves for fluorescence

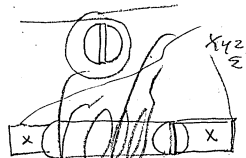
Y 42

use 1/4 inch ring
steel permanent
magnetized so as
to allow alternate current
iron pellet —
or

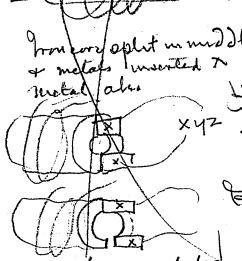
Let permanent magnet crystals
wholly

coil
Crystals

discharge Leyden
also Induction Coil
balls — wires
+ of Electric



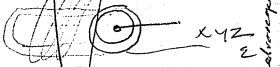
Iron cory split in middle & metals inserted ∧ Metal also



also mounted

also

Metallic Coating of Central wire



Metallic light covers of metal related from

If cores of metal are proceeded the direction of Current then a disk of Silver. Connected one pole & a disk of iron to other the passage of Current through tube shaped piece of iron into the Ag Wire

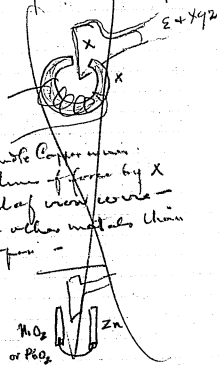
Speaking or Chemically

Little Ethereo coil no 12
wire stranded of 36 wires
and wound 1/4 inch hole
to 1 1/2 diam 1/4 inch
inside put in Vacuum
Equal to X ray - insulated
by air space put each
end + Copper by low
discharge. -
Revolving oxide
heavy amperes +
Air blow for spark
or Compressor for
Ethereo - also with
Mercury in fine row
wire in

Chemical recorder
Test paper with K Chloride -
for Fe pen developer with
Ferricy - HS. + NH4 y

Cobalt pen - HS NH4 y - Hypo acid Fe
much Hydrol. KOH
Nickel " " Ferricy
much is spark KOH.
Copper - HS in acid - Hypo Na
Pb - HS, Hypo Na
Bi - pen platinum pen over it
as Cathode reduces to
metal - also red and metal by H.
Arsenic HS and + Hydrogen from organic
Sb - reduced to black metal by H,
+ HS and
arsenic acid reduced at H pole by Cu
to metal -
Silver, Chloride or Bromide K, then
expose + light, or reduce at
or pressing wire cathode to
reduce to metallic

Ferrous Silicate powerfully magnetized ought show corollary phenomena with Light.



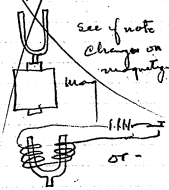
X bundle Copper wire
Cut lines of force by X
Coil of wire wire —
use other metals than
Copper —

Possibly there are lines of
polarization between PbO_2 &
Zinc which were now
within E or XYZ

Put hot bar iron in hand
Strong Current, see which
End Cools off first.

ditto heat center see which
Ends reach to 200 1st —

See if elasticity of iron
is diminished or increased
by magnetism



Flashing arcs at end of wires alternately showed on account of ultra violet waves permit an better contrast with the space 2 Phys Lab Experiment down diaphoretic polarization of surfaces of the panels. Think these reasons why best results in dry times. The light coming so few inches from it or form part of the antennas.

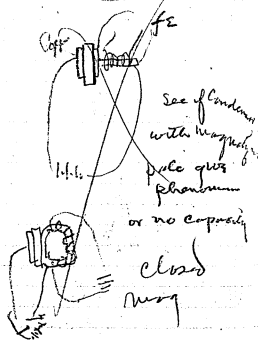
Polarization of metals shown by slopes by Ultra Violet Light on Electrodes.

Resistance of iron wire showed greatly increase when magnetized saturated as many ganges compounds to be formed of Fe ions

Record of metals are functions of free ions or combined ions.

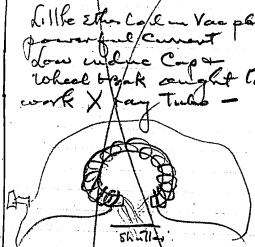
Al Cr Ag wires have their ions free whereas in Zinc che part are free & parts are combine of Zinc wire with either Zinc ions to form Complexes many complexes are stable, in iron many are stable while ~~these~~ free ions combine with Extraordinary Energy To form complexes. Al, does not hence manifestes power of Fe Mn has some free ions which — presence of very Sb ions Combine with great ease to form Complexes wonderful Electrolytes hence Mag quetes

perhaps X ray would
appear at a lower stage
of Vacuum of Crookes
Violet Light shows in
Electrodes -



see if iron line in
discernible in Spectra from
Combustion of iron pipe

Lillie Ether Coil in Vac phly
powerful Current
low inductance Coil &
Wheel break caught to
work X ray Tube -

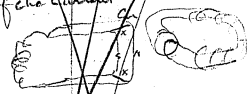


Also soft Fe
wrapped with
insulated
sounding
Telephone -

Within X light
strike Earth - Gaseous
mercury see if altering
so heard in telephone

Yellow in pyrite not sure
Wheatstone's Bridge

In passing one side of a loop of copper wire through a field gap, is due to polarization of Cu ions in one direction so as to determine the direction of the current



Then on pulling it out the residual ions acted to reverse direction

Can prove this by passing in open circuit pull X X out turn it around & shove it in again & should give current in opposite direction

But if this polarization is a prelude to such movement was out then

See if a Copper Zinc Couple a la Gladstone is magnetic alone, or then put in helix of old magnetic theory of molecular currents in all directions are lined up by Coil – then the Cu Zn Couples ought to be magnetic & give a kick on a mudrow galv

Copper has practical affinity for S Mn the least an alloy of Cu S & metallic Mn ought to be an interesting material

To get data for new Electrolytic theory from Kaufmann's method of just seeing at the part of the curves of deflectability

Make table of potential gradients of all combinations. Cooling Ca which is balance is highest to Mg 100. Ti zero. Cooling OX zero

as all small or from anode of Hg with Hg cathode in KOH. act as electrolysis. The effect of HCl may not be poisons for it so Hg cant spread out thin

glass protected!

2 balls in Vac i of Hg delicately hung.
one ball shielded from light not burning glass focus heat Al – it slowly go
~~Repulsed~~ by the heat

Can it be that high temp World repels in the Ether a low temp world. The Sun repelling the Earth & the Earth still of lower temp & throws back or repelled from zero temp of space + so now in equilibrium & Eccentric orbit is due to variation of temp ~~by~~ of space, the Center Earth is hot outside. not so hot result repulsion but Sun also repulsion hence equilibrium

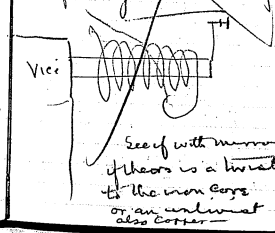
at centre Earth no repulsion
between it & rest of both
same being but outer shell
is repulsed hence gravity.
Every body sending out ether
waves of 100 energy repels
those sending out ether waves
of less than 100 -
hence gravity.

If a helix stretch on
Condensers & end of mag
the other end ought not
to be compressed -
possibly if measured
one end would be less
than the other
possibly ether waves from
wire stretching now
Repulses clouds!

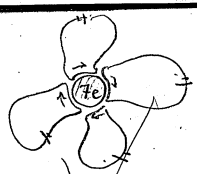
others produces Compression
& Elongation, on rings will
air dong + only Compression
on closed rings & this
would account for greater
work done & given out
on closed rings -
a closed ring immersed
in liquid with Condensers
in deep stand show
Conductivity, open gap
rings wouldn't adapt
with Evolution ~~fact~~ the
index.
If this is so Kick or
Converting Capacity
of a closed ring
should increase
by pressure - possibly
alternations of pressure
would create a current in
helix

Like Explosion in a
closed space containing
a closed wave running
surrounded with
wire —
allow dropping thus that
Ether waves or high temp
Regular low temp
bodies on the other
& of Cooling low
specific ht so little
work can be done
internally the impels in
+ apparent gravity —
weight will be greater
probably only low space had
bodies weigh heavier

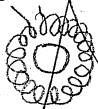
CP non coat flakes vac
deposit, transp - should
get some fine phenom with
these - can melt Fe_2O_3
by Oxyth flame - or perhaps
compound metal reduced by H
acts as Electrode -
Connection to + mercury
or unsolder by glass
Many other CP metallic
films get thus away



See if with mirror
of theory is a limit
to the non coze
or an unlimit
also copper —



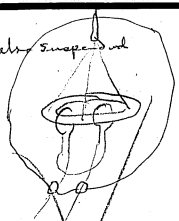
will become magnetic
or what is same thing



This is
Equivalent to
amp turns
with out
amp

Determine in Vacuo
Rack on 1½ mm ring
with & with vacuum
also at various pressures
of it showing exceptional

also suspended



So no inductive matter
Critical point lower or
Ring appears —

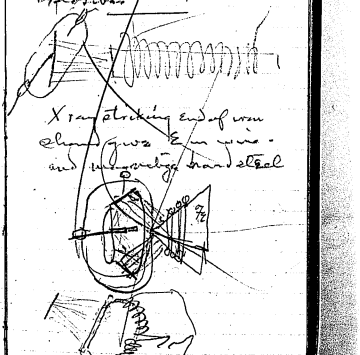
If ultra violet is absorbed by
shy mecy. will it not be
deflected very greatly
while the ether drag force
thus moved by a
force ultra from the ether waves
find the substance induced
towards ultra but not more
it for reflector perhaps
stressed by 2 wires X Rad
might affect the reflecting
atmosphere —

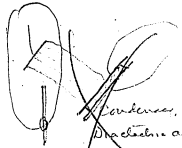
With a Bismuth
ring single turn
of wire decomposed
gives a kick in opp direction
to iron

If so then experiment
with Bi alloys to get them
more DIA like Wm 86
Sp. 51 etc.

If tendency of current around
iron form Endothermic iron aggregates
& absorb energy &
Diathermic tend to decompose
Endothermic aggregates.
Then possibly perox of
Ni being Endothermic
is magnetic or if not
battery current induced form
it & so on in a battery

perhaps Endothermic diathermic
might give interesting results
perox Ba & Earth Metals
Acetylides Cu Ag & all
Explosives



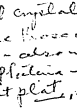


put Water + other dead drinks
Liquids in jar put in
Electrode of any plat + other Metals
~~[illegible]~~. Use rather high V
Now shine the liquid with
X Ray & Mag Ultra
+ also Ultra Shining on
Electroplating phos Light
diff's, Monochromatic
Light

X's reversed charge of Ultra
or intermittent Ultra to force
for matter to act to prevent
penetration - Try shielding for quick
1/2 million Rays seems not
also 2 sources

In all the Experiment
recorded so far cathode
ray up to 600 used
use Also Monochromatic
Light from Hg arc with
Quartz window -

Use steel platinum keep it
up to 6 @ 1800 fahr in
dead drink room +
test crystals for phos
like Phosphorus Eriscum
etc - also in mag field
at platinum - use chromel
heat plat.



use helix 1/2 long 1/4 inch halo
wireless weaver 1 turn the wires
+ put dif transparent drinks in + see
effect on the rays passing thru

group of 33% 1½ spread 21 holes
100 sulphur 25 sulphur
test 7½ after fungicide -

ditto Sulphide Iron 250 500 mlg
" arsenic [illegible] very fine 250 mlg
" Sulphide Sb -
500 mlg also solid piece brimstone.
Calcium Sulfide
Selenium -
Camphor -

group with 2 grams
H_2O -

L Ott put Ni cell ½ full Reg
green or 75% brilliant cold
keep full water -
one month Etc.

Billy Bee Reg up 60 cell
water a trifle balling
60% - Bly & dry reg
get heat use 10 Therm
fall standing dif parts
boiling - Have vulcanizing
placed black can be
cut out later - also
Several glasses for farm
make up one set with
trays now, another
½ inch apart - also
set trays lengthwise
& crossways &
keep accurate records
for reduction curves
also Reg Can filled
water 150 times to
moisture, vacuum -
Vanadium & Fung black
sulphurized Etc

Only ~~say~~ away of
Hydrocyanic also Muck

Make up a Reg Cell
33 put on hot table
No Current one month
Then throw out Sol soak
water 24 hours throw
out + fill 21 % Rum
Reg Hot Total,

Perhaps Iron can be
taken out tubes & flat
plates by 2 the alcohol
or acetone in alcohol
or dissolved HCl or
acetic the FeCl3 very
sol + NiCl3 do not,

possibly there is a deposit of
something on plates or the
greater the amount of
plate with a general
Element + Valuable the
longer the time it takes
to coat it + make good
Contact,

New Method producing Hydrocarbons
Organic chlorides either alone or
mixed with Hydrocarbon
with chemical Iron or Zinc

Sodium periodate prepare Na from
alkaline Sol – found by
action of Hypochlorite Na on
alkaline Sol – Says can be
used electrical Na

Try Hyp with phos Na
at Rechefiet –

2 N 1½ ½ wash -
Chyd Reversed after 5 R
Chyd decided reversed
all the time -

John Old & Roger Model
Coll Split where Cuban
Chuck go one can be
removed -

Group Cuban Reversed
Coulmorly against
CP Nickel Strip -

ditto against Bismuth
now -
ditto against Sprrrrs
Na Sulfate now
do against Cu Fe Gms

ditto Reg Fe &
250 mg glycerine -

Reverse Every alternate
20 Runs -
ditto Reg Fe &
13% KOH 15% 17
19

Duplicate with NaOH,
Duplicate KOH &
Na OH with 1 gm
glycerine -

When get Nickle have
John Meeks Company Model
Run strip of the Nickel
Group ..... time

Dr G measure viscosity

def'n KOH NaOH.

Read up on viscosity

Wet some of boat wax mixture with minimum KOH or, brick under hydrometer. Take & go work 20 minutes see how flows on heating

Heat shock speaking; appearance of magnifying now –

p

1 Plant flowers along walks.
2 Take out orange trees on avs
3 Put houses. plant Royal palms
4 Extend Tennis, Lawn & make shrubs infront our place –
5 = 200 loads manure –
6 Extend irrigating pipes etc over
7 plant grass
8 Set out rare trees.
9 plant Lawn & make avenue along Cobble length –

25000

13 / 400 000 / 3
39

5 000 –
70
35 000

20 000 –

40 000 . 35 –

80 000 – lbs an men

1 000
5
650.

30 000 –
30
90 000
80 000

80000 / 90 000

65 ft men
60
390

36

9-

3 | 1125

375

1500

1500

0

500
62
7000
30000
31000

45
45
225
180
202

4 cubes
1 ft deep
180 ft long

400

210 | 31000 (150
210
10000

40 ...

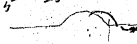
30 | 160000
150
100
90

5000

3.5

4 16
4½ 20
5 25

45
45
225
180
202



1000000
1000000
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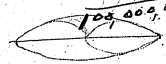


1,000,000 — inff

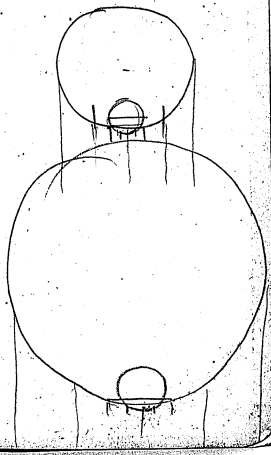
Notebook, PN-07-00-00.2

This undated pocket notebook was used by Edison, probably during 1907. It includes lists and descriptions of experiments to perform, reminders about patent and business matters, and notes taken from a book or books on the recovery of silver from nickel and cobalt ores. Many of the experiments pertain to the composition and manufacture of storage battery components and to related chemical researches. Others deal with phonograph reproducers, the composition of phonograph record blanks, cement kilns, and electromotographs. Also included are a number of speculative notes on the properties of light, the nature of electricity, and the use of cocaine as an anesthetic. Among the employees mentioned in relation to individual experiments are Ralph Arbogast, Thomas D. Greenley, Walter E. Holland, Frederick P. Ott, Ludwig F. Ott, and Charles N. or Albert F. Wurth. Employees mentioned in regard to other matters include Frank L. Dyer, Walter S. Mallory, John V. Miller, and H. I. Moyer. In one case Edison considers notifying Dyer about filing a patent application on a method for making metallic flake for storage batteries. Elsewhere there is a reminder to write Mallory about bauxite and a blast furnace. The pages are unnumbered. Approximately 100 pages have been used.

N. Y. DRUGGIST CO.
STATIONERS,
21 & 23 NASSAU ST.,
NEW-YORK.

PN-(07-00-00.2)

K&T



Thiosulfate Na
Diss Ag + Au metallic dilts
AgCl - 100 gms dilts
54 Cent or Lead diss Au
precip by Na Sulfide -

Strangers in Sodium Copper Thiosulfate

1/4 pt by wt Na Thiosulfate 1 pt
by wt Cu Sulfate.
Don't Keep - make as wanted.
Thus Sol diss Ag metal several
times gm makes clean sample
Thiosulfate diss Au about
same as Sulphide Thio
Probably invented by Forrester 1904.

Slags -
proportion of ferrous ox should
not exceed 50% otherwise
danger of gelling now in
Matte or Speiss & shunted

not fall below 24% as the
Energy bonus which must take
the place of the iron reduce the
slag too refractory.
Specg of slag not Exceed 3.6

Silica	Ag & Mn	Ca Mg Ba	Total
28	50	12	90
30	40	20	90
33	33	24	90
35	27	28	90
34	50	12	96
33	36	16	85
30	36	20	86
36	40	20	96
32	33	23	88
40	34	26	100

	European	Ore	Record
Si	28.14	27.05	27.02
Fe	37.23	41.21	40.1
ZnO	7.60	8.62	10.1
PbO	7.35	3.90	5.7
CaO	0.50	1.03	
Al	5.78	6.82	
Ca	7.68	8.84	
Ba	3.97	0.90	
Mg	0.63		
S	2.47	3.53	

Ferrous chl produced by adding
120 pts NaCl by weight to
1000 pts Wales & then 280 pts
Ferrous Sulfate added after the
Solution was separated from the
Na Sulfate which crystallized
out another 200 pts NaCl
added. Stir the ore in this
Sol heated to 70.C. The
Co Ni dissolves + Fe precipitates
probably arsenic also
possibly Ag due of not
Could be due not of residue
fully by Thoroughfare or Eaton Cone
#2904 - Hunt + Douglas - They
had trouble with Hydrates.
They also had to get Ag out
of Excess Salt Sol.

Sec of Sulfate Sol from Bi, Ni, Co, and
when need of full arsenic have
arsenic precipitated by Metallic Iron
but also by water by prov.
but to add SO_2 to reduce the arsenic a

Possibly Cobalt flake will
not reduce an ammoniacal
Sol of Copper hence can
be used for dissolving out
Copper Tryst,

H_2S made by reducing Na_2SO_4
by Coke, then passing CO_2
through it Carb. Na being
the byp. product,

If arsenic exists in Co Ni or Co
anode with neutral Sol it entirely
goes into the alimes but if acid
solution it is gradually dissolved
as arsenic acid by precipitating precipitates.
If there is OK then are completely in
Co would be OK after ignition to
Oxide, reduction to anode or
replating in neutral Sol to get
rid of the As. ?
If Sb present it dont deposit in
acid Sol but does in neutral
So it would have to be eliminated

Use the Co Sulfate Sol with all the
Ni in + electrolyze it use Pb anode
a Cu Cathode then Copper values
only - used Sol. Deposits Cu +
Sb but - Current density
33.5 amp per sq. ft yield
This is used at Mahefund on
Cu Co Ni Spent Containing Chrome
but for Sb Bi + Sb
Not Co Ni Mn Co Zn Zinc

Hours considerably shortened
Hot Cure Sol with
Cooled Sol with

Not time for Cu

Take some Co sol reg a by precip by Cust Soda wash tube if as in it

The probable chief action of dilute SO_2 soln in Reg Cor I decomposes the $Ag_2Ag_2O_3$ + Silver metal. Try the residue after washing well add Sodium Cuprous Thiosulphate warm acc of dis Silver – precip by Na Sulphide –

Arsenious Oxide Volatilizes at 218 Cent.

Arsenite of lead (precipitate quickly compound) that is stable at a high red heat, ~~precipit~~

Arsenic acid at red heat is decomposed giving As_2O_3 + free O

Act on ore with Conc H_2SO_4 hot use excess acid, then dilute & act on fresh ore to neutralize acid then use Conc acid on fresh ore to dis Ag + Sn ore.

Monohydrated H. SO_4 Gal at

1.85 BP	326 C		Baume
1 801	238		
1.75	210.	1.84	66
1 68	186	1.72	60 Baume
1.65	177	1 61	55
1.52	143	1 52	50

Ignition Sulfates
Very high heat
Alkalis Mg. Pb.

Next are
Sb Zn Cu & Fe_2O_3 Sulfates

Very high temp necessary to drive off last remnants of SO_4
from Zn Cd Co Ni & Cu

If Bar has property of taking up more O it goes it from the SO_4 like Ferrous to Ferric & SO_2 evolved

Sulfate Sol. of Ag or many by precip by Cu Sulfide, HCl or even precipitate, HCl or Chloride

group 12 hours on
chg 12 dis
see if this holds —

Ag Sulfate - 1 part dissolves in

180 pts	Cold water		
.88 "	Boiling H_2O		
180 "	Cold H_2SO_4	10°	Baume
30 "	Boiling "	10°	"
20 "	"	20°	"
4 "	Cold H_2SO_4	60°	"
0.25	Boiling H_2SO_4	66°	B

Ag precipitated from Sulfate Sol by Metallic Copper
If Bi is present it forms insol Basic Sulfate of Bi & Ag
or Basic Ag when Cu & Sb present
Silver forms Chloride & Carbonate
Ag - insol in water -

and also neutral
was 20 cc by

See if Co Sulfate Sol ~~rather~~ very Concentrated
is precipitated when poured into
Concentrated hot Sulphate Soda
If so filter hot & see if freed from
Als & other things - point precipitated
probably Na_2SO_4 33 deg Cent.
also try K sulphate in the same sol.
Try this with NaCl, Conc & hot.
Also $NaNO_3$. My SO_4 also.
See if Co Sol if exactly neutralized
by KOH, if it throws down anything
like Bi - etc -

Also try neutralizing by slopped lime
boiling & filtering until neutral -

When acting on a non-dis Carbonate
the ag Bi with the 30 cc SO_4
and dilute Nitric see if it
dis the Bi & Cy -

Spec g Smalltz 6.4 to 7.2
Prochite 7.32 to 7.67

$Na_2Sulfate$ melts at red heat to
a thin liquid spec g 2.690
perhaps if raw ore fused with it
lime the float out on top -
also see what effect fusing
the roasted ore with it, too

By igniting the Sulfate of Co Hi Fe
we get rid by dissolving the reg Co ore
the Fe Sulfate is decomposed at
a heat which dont affect the
other Sulphates - Then submit
with water - in all probability
the ferric ox thus obtained
will have combined with
the arsenic + thus the Solution
when precipitated contains
ferrous Sulfate so in Sol. I
will be freed of arsenic!
Zn SO_4 easily holds SO_4
opposite to oxide lime
(it also be stunned)
If not enough Fe SO_4 must
add it -

Holland-Islands, Zn precipitate from slow
ox Zn in large quantity of Arsenic bearing
Solution such as opt / Zn Arsenate
possibly it will not include the Co

Acid arsenite of Sodium
dont Cryptalogs - possibly
can point reactions the Reg
Co Solution from Cas I
with NaOH, then Cryptalogs
out the Co Ni the cobalt
any As2O3 chill it down

Heat roasted ore in Carb Potash
Melted, part reduced to metal
& part forms an Arsenite.
by releaching several times
perhaps all Co Ni can be
got as Oxides —

Use 1 pt Co Cas I Sol some free
acid add powdered Ferrous
Sulfide. hot, till all As precip
filter & roast - till Fe2O3
produced, Exhaust with
water & Cryptalogs -

Try Hyposulfite under iron

Residue -

1st Roast, reshaved with SO4 -

2nd Try dissolving Ag Bi out
with KCy - Hot Conc SO4 -
Russell's Sol, Dilute Nitric -

3rd precip Ag by SHCl, or Cu or Zn
Zn, H2S, - Water,

4 if any further remains dissolve
Aqua Regia + get out by H2S
+ take Co Ni -

Drg to make lot of 80 Fe
20 Bi; RA to reduce by
H add 5% Hg - 1 lot
next lot reduce to non pyropho
no Hg -
next lot reduce non pyropho
add 5% HgO Dry

Dr Cl make 80 Fe 20 Cu
RA reduce non pyropho
add 5% HgO Dry ✓

RA precip Fe Sulphate containing
some Sulphate to get ammon of
Fe OH + Sulphate Fe - reduce by
H non pyropho, add 5%
HgO Dry

RA - precip FeSO4 80 ✓
MnSO4 20 - 1/2 wash dry
peroxide + reduce by H. 5% HgO

ditto to Non pyropho add
5% HgO Dry

10 Bi 80 Fe 20 Mn ✓
precip 1/2 wash pour off alc
oxalate acif heat. 5% HgO

ditto reduce non pyropho
5% Hg -

80 Fe 20 Chrome precip 1/2 wash
reduce
acif heat 5% HgO

ditto Non pyro 5% HgO Dry

80 Fe, 10 Bi 20 Chrom 1/2 wash
percolate, radium self heat.
5% HgO –

ditto non pyro 5% Hg Dry

ditto Molybdenum + Bi
same proportions

ditto Vanadium + Bi

ditto Vanadium + Cu same
proportion as with Bi.
5% HgO – self heat + non pyro

ditto 80 Fe 10 Bi 20 Tungsten
5% Hg –

ditto 80 Fe 10 Bi 20 Sb
1/2 wash self heat dry
5% Hg

80 Fe 10 Bi 20 Lead
self heat also dry
5% HgO

80 Fe 20 Tin
self heated also non pyro
5% Hg –

80 Fe 10 Bi 20 Tin
self heated + non pyro
5% HgO –

L Ott try piece spiegel
essen in K OH, anode

grang chgs. 900 - dry Reg
" " 100 "
" " 12 hours dry 12 -
" Run to boil 150 until steady
then 200 till steady - 300 till
steady -

To peroxidize sol containing 160
lbs Cobalt

320 lbs Bleach 30%	3.30
218 lbs Caustic Soda	5 00
144 " Na_2CO_3 -	3 00
Extras	1 50
	12,80

8c Pound -

Co from Ni
Sol - add slight amount acid
then Excess NH_4OH. Then ferricyK
ppt Co Ni not ppt -

ppt by Excess NH_4OH - wash - dry out
the CoS by KCy - Ni stays in Sol

Co superficially precipt by H_2S from
acetate or NH_4 containing Co.
Crooks spec p 265 -
positively removes the arsenic -

1 - grm arsenide fused with 8 times
its wt of equal pts S + Na Carb -
Exhausted by boiling water which
removes the As + Sb - leaves the
Sulfides -

1 pt arsenide mixed 2 pts solid
KOH + 1½ pts S - fuse to dull red
Water dis the double Na Sulfo
arsenate - leaves the Sulfide
Co + Ni

Took 20 grms Reg No 1 Cas
heated Monday 1/2 day with
dilute H_2SO_4 1200 Reg –
Evap dish 3/4 full Dolomite
Residue weighs 2.580
grms – (Thus always
17.420 grms dissolved)

4 more tests 3.510 } 3.510
3.510

grms in residue 3.290 } 3.475
3.475

The 1st Sol 2.580 was heated more
than the 4 last ones –

Bauxite brick for Helms
Lacledo Fire brick Mfg Co
St Louis Mo –

$ZnSO_4$ – Cry Mg system $7H_2O$ 6 atoms
given off at 100°C, last above 260°C
Wholly decomposed to ZnO at bright red.
Sol 2½ pts cold H_2O

$CuSO_4$ dec bright red heat to CuO
$FeSO_4$ " at red heat –
$PbSO_4$ melts at red heat without decomp
unless in contact with charcoal or SiO
then reduced to metal by iron
$MgSO_4$ melts red heat only part dec at high heat
$NiSO_4$ gives off – part of its acid at red heat

To test if arsenic acid is in
Sol, add basic acetate of
Lead, gives white precip –
Arsenate Pb –

Dyer – patent $CuSulfate$ NH_4
Sol for dissolving Copper
from Cobalt flake

Recy Fe plate, soak in Conc. Copper solution
& Precip by KOH + boil —
ditto, Reduce in H,
~~Keep~~ dip more than once — ditto B.
Probably mix Fe Reg with flake nickel
ditto's 941 842 743.
Look in note book find group non pure
+ have them Reversed,
Dr 9 make 5 10 20% Cermin with
the Fe. to be reduced H leaf no non pure 5/19

1000 grms of No 1 Cardboard
Glycerinning & washing To
200 meals & breakfast
with dilute HCl reduced
wt to 670 grms pure, 15 g fat or fibre
Glycerine will now roast,

Cupric O treated in Sol with
Containing KOH or NaOH +
Dissentions cand. the CuO
is reduced to Cu_2O +
arsenate K formed —
The Cu_2O can be dissolved
out by NH4

For Dust sep for kilns Shelves
Portland Cement — for brick —
Slate — Cast non-Cast for Blast
furnace slag — ditto puddling
furnace slag — Copper furnace
slag — steel make a silicate of
Iron slag — + cast plates.

for dis Cu out of Co Cu flakes
Use Cupric Ox dis in NH 4
molecular bottle — try
def strengths —

Try Co Cu flake in a new
Electrolyte, with Chl Cu
+ NH4 - say Alcohol
187° Acetone + other solvents -

Q. V Mellon thro 20 on 40
1 6 times Concentrate
Cair HCl - Wt 20 grms
Mean put in HCl, Lime
removed dried reweighed
18.700 93.5 Recov
6.5 % Tails of Lime in Conc

Complete analyses
No. 1 Cu lot of Underwing

Cobalt	8.00
Nickel	5.15
Arsenic	42.15
CO_2	13 33
CaO	17 30
Fe	3.55
Sol HCl Fe_2O_3	0 70
Al_2O_3	1 21
Insol Silica	4 17
Sulphur	0.85
Bismuth	0 30
Copper	0 30
MgO	1 02
MgO Sol HCl	0.15
Zinc, Antimony, Manganese	Traces
Tellurium	not yet det
Selen	
Moisture	

Extraction Ag from Co Ni ores by lead not now done, large loss Ag - wet process used
Cupulation furnace 11 tons lead used
Ag ores added 50 @ 100 lbs at time when PbO commences form, Impure PbO raked off.
air blast stopped ore Then thrown in ore floats, it partially roasts off As & S + partially eliminated, Ag reduced to metal by Pb. any residue on top bath fluxed by PbO, when slag fluid, raked off - cupulation proceeds by adding more ore - these operations may take place every ½ hour ½ ton ore added to bath of 11 tons

Milk lime, or Ferrous SO_4 used as binder of fines -

Ag_2S is not completely decomp by molten Pb.

Copper dis by H_2SO_4 + air - Cu granulated H_2SO_4 passed over it, film of acid left upon passage of air dissolves Cu

process intermittent, (warm)
Fe Ni Co dissolves Pb most residue
Sb Sn Bi form basic salts remains
principally in residue As partly goes into Sol as As_2O_3 + partly remains most Arsenates
Antimonates + Arsenates are decomp by Warm H_2SO_4 forming Antimonic + Arsenic acids
CuS also Au + Ag remain in residue -
Tower used lined with lead
false bottom air entering bottom
2 jets top, steam used Hot liquid
Every hours or two -
long trough used 360 ft - for 8 vats.
at end trough Pb Arsenate + Antimonate + gypsum form.
Most Ag found mixed at 1st end with Crystals $CuSO_4$ -

Careful roasting will permit $CuSO_4$ + $FeSO_4$ to be formed. By careful roasting heat, $FeSO_4$ decomp none of $CuSO_4$ is decomp - The $FeSO_4$ decomp to oxide & SO_3 ? -

With a mix of CuO + Fe_2O_3 a 3% sol of H_2SO_4 will dissolve Cu but no Fe when sol shown heated -
Density must not exceed 26 B otherwise pipes clogged with Crystals
Residue has all the Ag Au Pb
fulbrite may contain Co Ni As
Sb Bi + $CuSO_4$ - any Ag that may have gone into sol is reduced by $FeSO_4$ to metal,

Augustins Process.
Ag converted to chloride by roasting with salt, or dehydrated $FeSO_4$ -
AgCl dis out by NaCl - precip by Copper - 100 pts solid NaCl dis in H_2O take up 0.4 % AgCl another measure 1 litre saturated NaCl dis 0.45 grms AgCl and lump
" 1.27 at 19.6° Cent.
Calcium Cl + MgCl better solvents.
If Au present an after Exhaustion with Na or Ca thiosulfate is best to extract Au - Vats must be lined
Arsenates + Antimonates of Ag imperfectly dis + cause loss Ag
Necessary condition for success
Augustin process absence of Sb Pb except - small quantities

Patera process
Ore chlorinized roast. AgCl dis
not by Na Thiosulphate
Ag precip by adding Na sulfide -
precip by Copper not favorable
as Na Thio dis also both Ag + Cu
Ag S is however insol + inert of
Na S as precipitant - also regeneration
Na Thio -
Solvent powers of Na Thio for AgCl
100 times greater than NaCl -
100 pts Thio dis 40 pts AgCl.
Ca Thio about same 90 " " % of
Na Thio.
Thio decomposed the AgCl forms
double salt, Na Ag Thiosulfate
Patera process over should not
be used in Pb Cu or $CaCO_3$
Calcium goes to Caustic in roasting
reduces AgCl to Ag + diminishes
solubility of most Ag compounds
in Thio, lessening tendency of this
to form double salts. It also
precips Pb as hydroxide + coats
particles of AgCl with insol film
+ prevents dissolution —
Impure action to some extent of Pb + Cu
(prevents) by extracting Sol salts by
H_2O hot before moving Thio
Pb may be precip as Carbonate
before use of Thio to insol
Cu is extra impurity of Pb is present
because hard to separate from precip
containing Pb + Cu Sulfides than
if only Cu S + Ag S present —

Sb + As do not interfere
as it does in Cyanidation process
because Arsenates + Antimonates
of Ag give up their metal to
Thio
Any Metallic Ag present often
roast is dis by Thio

Through undecomposed Ag_2S or its compounds with Cu Sb Sulphides is not attacked by Thio –
Thio sol is rarely used to dissolve AgCl already existing in ore but generally used on ores containing simple or compound sulphides of Ag which have been Chlorid roasted –
This process not used for extracting Ag from metallurgical products –

Ag_3AsO_4 diss in warm Na_2Thio – diss 0.2 pts Ag for 1 pt Solid Na_2Thio –
Ag Antimonate requires 1 pt Thio for 0.05 of Ag
Solubility of Arsenate + Antimonate Ag considerably increased by presence NaOH.

$CuCO_3$ Pb Fe Mn Zn Ca Carbonates insol in Thio – Cupreous Ferrous sol but Cuprous + CuO oxides Fe & hydroxides Fe Mn + Zn not sol –
Cupric Chl diss with formation double salt $PbSO_4$ due to double salt $CaSO_4$ forms $NaSO_4$ & $NaCaThio$ + diss –
Cupric diss sol in NaOH + $NaCaTh$ produced. Its sol in Thio same extent as in H_2O.

Solubility of AgCl in Thio diminished by presence Pb + Na Sulphates + particularly by Caustic Alkalies + Alkaline Earths –

Kiss process Thio used process same as Patera, but Ag precip by CuS Cu from Thio being regenerated –

Russell process

Ag present in ore as simple sulphide or in combn with As or Sb sulphides or as arsenides or antimonides or in metallic state, with gold in dis by Sodium Copper Thiosulphate

Ag precip by Na_2S ref. –

in American works used as an auxiliary to Patera process

Extract 1st by Na_2Thio – then follows with Na_2Cu_2Thio the latter solvs dissolves any gold Ag in metallic state, or any sulphide arsenide or antimonide of Ag being also dis

Ja precip are Na_2Cu_2Thio $\frac{1}{4}$ pt by wt Na_2Thio 1 pt $CuSO_4$ with H_2O – makes a wanted – decomp – air Russell's salt also metallic Ag std and temp nine times wt 50°C $3\frac{1}{2}$ times faster than plain Thio –

Reason of increased solvent power due to Cu_2S set abslg O from air acting as a carrier of O the metallic gold is dissolved about same with Reg Thio –

Ag quickly decomposed by Na_2Cu_2Thio Cu_2S then precip & Ag goes into sol –

(Try this on crude ore ref.)

Claudet process, used on roasted pyrites for Sulphur –

precips Ag from liquors by Iodide K if Pb present Pb Iodide comes down also –

Gibbs process for precipg Ag from sol – uses H_2S + steps when 60% of the Copper has been precip as sulph Ag will be precip by this time) – precip roasted in partly yields Cu_2S pp

a pure Oxide = while ag
converted to chloride by action of
Chlorine left behind — Solution
— precip.
Roast + treat — Vale with H_2O then
hot Hcl which dis Agcl
Sol treated Milk lime all
heavy metals precip
from precip Cu dis by H_2SO_4
leaving residue with all the agcl

Andrus proposed blowing
from powder then leaving
ag reduced before the rest
of the Copper gets reduced —

Ziervogels process —

Converts Ag by roasting into $AgSO_4$
when Cu Fe sulphides present. very
Careful roast. $AgSO_4$ sol H_2O precip by
Copper —
Careful roast of Copper matte containing
not too great amount FeS — ferric SO4
is formed in addition to Fe + Cu oxides
as Temp is raised Fe_2SO_4 decomp SO_3
evolved, then + O of air brings about
formation of Fe_2O_3 — latter alone is stable
at temp where ferric SO4 decomp
increasing temp $CuSO_4$ decomp to
$CuO + SO_3$ or $SO_2 + O$ — SO_3 acts
by bringing hitherto undecomposed
ags. into $AgSO_4$ $SO_2 + O$ being
produced the O exerting powerful
oxidization in the ags.
Ag_2SO_4 is stable at temp where
$CuSO_4$ decomposes so if roasting
is carefully done product
is Ag_2SO_4 + oxides of Fe + Cu

If temp too high Ag_2SO_4 decomp –

If As or Sb present amounts of determinants of Ag formed in roasting have being insol in H_2O occasion loss of Ag. If Bi present it forms double sulfate with Ag_2SO_4.

presence of Pb & Sb sulfates causes sintered lumps makes unpaved roast

Hence this process depends on absence of As Pb Bi Sb compounds

1 part Ag_2SO_4 dis in 180 pts H_2O
" 88 " Boiling
" 180 H_2SO_4 10 B
30 " 10 B boiling
20 " 20 B "
4 " 60 B cold
0.25 " 66 B boiling

If Cuprous Ox present in roast ore Ag reduced to metal on dis in H_2O must be roasted to cupric Ox

Raw ores or speiss never worked by this process

From Dr Gruber's book

Roasting –
$FeSO_4$ decomposes 300 @ 400° C
Fe_2O_3 500 C from 500 To 600 C
basic + neutral sulfates decomp + completed –
Then Ag_2SO_4 forms + $CuSO_4$ begins to decompose
Zn Pb + Co. SO_4 stand between Ag_2SO_4 + $CuSO_4$ owing to stability
$MnSO_4$ decomp at higher temp
But 300 @ 400 C Copper equals as oxide, the $CuSO_4$ alone be thrown (by O_2) as it decomp
the Silver + Valty – Reducing actions are bad,
Ag can be revealed to Ag_2SO_4 except in atmosphere of H_2SO_4 – which in the C are so formed Ag decomp of $CuSO_4$
Flue dust contains 0.78 % Ag. Ag_2O evaporates due mostly to presence of other volatile oxide

Cyanide process

Ag or AgCl dissolved Hg + precipitated by Zn. Pb. or H Cl –
0.5% of .10 hours – then dilute with
dissolved 10 hours. Many strengths used.
HCl precips Au as AuCl
the weaker the sol. the more Au thrown down

Amalgamating Process

AgCl easily decomp by Hg – forms
Mercurous chl – Ag unites with Hg
Ag S slowly decomp by Hg
formation HgS more rapid in
presence Fe + also heating
As + Sb compounds of Ag slowly or
incompletely decomp by Hg alone
Decomp of AgCl by Hg causes loss Hg
best to use metallic Fe to decomp in
presence of Hg saves Hg

AgS ores are heated with metallic
Fe + Hg – or CuCl + Hg Either

alone or together with Fe Cu Pb
or Zn or else Ag chloridized roast
then treated with Fe or Cu + Hg
If ores contain As Sb. CuCl + Hg used
or CuCl together with Fe Cu Pb or Zn
+ Hg or roasted chloridizing + treated
with Fe or Cu in presence of Hg
Clay + magnesium silicates
in ore bad Coats mechanically
Gold more easy amalgamate Zn Pb + Bi
also amalgamate
As Sb alloy amalgamate with difficulty
Fe Co Ni not at all –

Amalgamation without Chloridizing
Roasting –
lead collect Ag speaks in form
of sulphide As or Sb compounds
or simple sulphide or haloid compound
Reagents being added in amalgamating
apparatus

Krohnkes Process
Hot sol Cuprous Chl in Common
Salt decomp by compounds
which are then reduced by Zn
Pb in form of amalgam
The Ag S As Sb compounds of Ag
are then reduced electrolytically
Zn + Cu are best for reduction
Fe Pb Sn more feeble action
more used by mercury and Zn
or as amalgam -
Fine grinding essential for this
process = Cuprous Cl obtained by
made as wanted, as it oxidizes quick
to Cupric Cl or oxyhl -
1 pt CuSO4 dis in 6 to 20 pts
Concentrated NaCl + H2SO4 to
amount of 0.5 to 1% of the
CuSO4 added to the solution

A better way is to add NaCl
to Sol of CuSO4 of 50 B so
long as it dis. Cupric Chl +
Na SO4 formed liquid heated by
steam + sheet copper used to
reduce Cupric to Cuprous
The free SO4 prevent forming basic
salts. The Cuprous Chl though
slightly sol H2O is readily sol in
NaCl - Solution ok as soon as
discolored -
Zn Amalgam - 1 Zn 10 Hg
heated together then treated Hg
squeezed out,

Barrells used pitch pine 3"
thick - Sticks across break up
ore, billied to help removing amalg

Iron vessels cant be used
1 Ton Sol to 3 Tons ore Strength
Sol 8% + salt used is 3% of wt
of the ore

3 tons ore requires 600 lbs H2O
Case taken that at 5.0 operation
there is a trace Cupreous chl
Afterwards vessel filled cold
lb water allowed to cool some
time & then rotated 1 to 2 hours
this unites the amalgam
Amalgam contains Cu & Ag

Amalgamating Spries
Roast then add NaCl & ferrous
SO4 & recast Ag converted into
AgCl & Au & Sb compounds of
Silver also converted into AgCl
FeSO4 accelerates the reaction
by giving off SO3 liberating HCl
& Cl from the NaCl the ferric Cl
combines chlorides of the Ag
400 lbs roasted ore 80%
NaCl & 20% dehydrated
Ferrous sulphate

Sulphate Cuprous
melts 284 F requires decomp
at 536 F. glass vessel corroded
& evolves HHF than water
& Nitrogen gas & disappears
entirely with sublimation of
Iron phosphate. HHF usually
generally (NH4)SO4

Sulphite NH4 is oxdzd to
Sulphate by magnesium ass
with F or dilutes with
lime & absorbed by H2SO4

Key precip Ni Sol in Excess
not altered when boiled in ass.
heated with Excess NaHypodiphosphate
Solution is mixed with Br in cold
gives precip black Ni2O3 hydrated

Co Bay on other hand sol in
excess key when boiled in ass
its changed to another Co & not precip
by NaHypodiphosphate or Br

Wad-

Solution nearly neutral mix with
Excess $NaC_2H_3O_2$ & small quantity
Acetic acid - heat to boiling & pass
brisk current H_2S in boiling liquid
Mn & Ur remain in Soln
Ni Co & Zn are precipitated

Rogshillin Electric Induction furnace
melting Cobalt -

Best Spec G for Crystallizing
$CoSO_4$ 1.390
$FeSO_4$ 1.280

Try Sources for separating Co & $NiSO_4$ from
Each other.

Try igniting Co & $NiSO_4$ together bright red
I know see of $NiSO_4$ decomp.

Ord Fe pyrites commence loss S
at 440 C chalcopy Magnetic pyrites
& Cu Nickles at 525 C Zn S at first
750 C 900 C must be separated
to decompose the $ZnSO_4$ formed

H_2O at 20 C contains 8.6% SO_2
at 100 C only 0.1%

Try Solution from zinc & first reduce silver
by Copper to then further - use only 1/4 of
Solution - then add Ag out. Test if
above left in solution - try another
put with HCl -

Slag for Iron Pyrites
2 pts Barytes 1 pt Charcoal
of this flux 18 times that of the
iron to be fluxed co
ucted - is very fusible
Ferrosilicate of Barium
is formed - Raw Sulphides
used - this flux drives off SO_2

Silica in sol can be precip out by
making Sol acid or adding
neutral Neutral Salt, Silicate of
Na is formed. This is used in
analytical reagent known as
Silica in Solution —

Well Cake Barytes precip Fe_2O_3
from Sulphates Co Ni Feds
In Sol - saw that it was
used in refining process
Carbonate precipitate $BaCO_3$ used
dirt heat liquid of not 60.°
How about Lime

Sulphur & Carbon melted
together gives off HS abundantly
glass vessel - very convenient as
convenient flame well known
HS strips, & flesh cambric get
used for fuses use —
say heat pint in pan please
broken balance pure —

Try roast ore with Slaked Lime
also with Ferrous Sulphate alone
dilute Ferrous Sulphate & Salt,
boil 200 weak ore with Hypochlorite
Soda,

Pass SO_2 over Dry Wood, dilute wood
then Ethanol water —

Pass HS through wood until all
Sulphur, then O dissolve out MnS
by dilute H_2SO_4

Do wood remelting with NH4-Y
pass HS for little while just to
throw down Ni + Co that Mn
as Mn has least affinity after S
of all metals,

See if SO_2 taken more Co than
Co Ni out of roasted Ore !

Take some of the Sulphur Co ore, which
was boiled down add them to
large quantity Conc SO_4 boil
then settle & decant to see if
SO_4 takes Co_2O_3 out

Dr G makes Potassio-ferric Sulphate,
the or double Salt,

Ammonio-ferric Sulphate (Ammonia Alum)
by mixing NH4 SO4 + Ferric SO4 + Little free H2SO4
Evap to crystallize

Cupreo-ferric Sulfate
$Fe_2 Cu''(SO_4)_4 + 24 H_2O$

Potassio Ferric Sulphate (Potash Alum)

Dr G to write method making
Sodium Ferric Sulphate with Dio
3rd Sept 1878

Make up 10 or 15 lbs
Na Ferric SO4 + have RCA
May Ex Hg 5 & 10% HgO
also Cu + Hg various
Proportions —
also 10 lbs K Ferric SO4

Resume pickup group
7000 NiOH 2000 Bi Oxide 1000 Ni filt.
2500 " 500 "
1500 " 1500 "
2000 " 1000 1/2 thick Ni filt.
all well mixed —

Don't forget pocket Nickelitic +
over this, Ag + Au Cu Bi
Trace of platinum Chloride.

Put up 80 Fe 20 Sn charge
fully then discharge +
Reverse it against Ni
strip in glass see if
Tin all comes out of
Cathode — Go Bismuth
charge until all tin
out of then run

Try Ferrous Pot + Bismuth Sulphate
with excess HgO

Make 2 grades
No 04 thru 30 —
" 40
50
60
70
80
100
150
200

times mill
mm —

also thru 20 with flake
Cut strips 50, + 60
wide — cloth 30 + 20
wide.

The different ways
of packing flakes + Nickel
"all same stuff
(1) Nickel 2

Take CuSO4 Mother liquor after
Crystals add K Sulphate add it must
take not than one of all the CuSO4
will crystalize out leaving the
H_2SO_4 & Al_2O_3 the behind
thus for a quick seperation

Zn dem NiHy Try ZnSO4
& NiHy to dem Copper

Several 1/16 spirals in iron
Cup — also 005 7/2 cups

Greenley Try making a
graphite Electrode in the
RCy Sol for Eating flakes
& Connect it as ~~anode~~
~~Cathode~~ & try Current
both ways also
Short Ckt & use no Current

Holland [illegible] Rare metals
[illegible] Mercury [illegible] & Cry
[illegible] [illegible] Lime,

Gold cold iron
Groups testing various $Ni(OH)_2$
~~Hg~~ [illegible] cell high Iron – Chart
~~Gold iron~~
~~Gold~~ ~~Hg Cu~~ Recovered once a week
Different trays handling
Green thro 20 30 40 50 fumes
Using good Co Hydrate and standard
use 8000 Co 1000 Ni [illegible] very thick
7000 " 2000
6000 3000
5000 4000
4000 5000
3000 - 6000
Punched sheets
tubes [illegible] iron –
New big pestle burs ground
Reg plating –
ditto ½ fires in acids

Re [illegible] ~~gent~~ up 6 N old Cups
8 [illegible] clay + dus [illegible] burns –
group with 10 KOH 11 K_2CO_3
15 " 6
KCl 10 grnts. cell 3 on group
all Hg Cl clocks, 5 burs
grand burgeff – ditto punched
tubes burs ground heavy Ni plating
3 rings 4 rings 5 rings

Iron mix with 6 6.5 7 7.5
run with H tubes –
ditto Hg Cu iron
" Bi Na HgO + with HgO
6 6.5 7. + 7.5

Jewels in devices of
Reports for phones
watch jewel plating

Dr Grotto distill
in Vac small glass offers
some yellows CP Beaumy

Dr Cy to lead Diabase Can I also
Greenley with Hydrofluoric for
Ag —

Aluminum Iron Condenser
Al Rectifier for Amos —
Elec with Rectifier for
Workers —
Emch. Cylinder of Al + pen of
rawhide or Carb Stoneware
or Fe_2Co_3 + Al pen —

Henley lay out 40/wood + 10/iron
see depth on both 1 with 10/iron other
5/wood — also 40/wood bottom +
10/iron bottom also. 8/ [illegible] of ball

Dr Cy Sulphonated fatty
Acids — for glass

see if that Cupola is
in lot across street
we used for glass —

Worth Mallory abt Bauxite also
to get price Phosphat for [illegible] Carbonate
Carbide + Gelson — [illegible] of [illegible]

Greenley use strain flakes as anode
Cu on Cathode + deposit the
Cu on Copper + then [illegible]
KCy lead for Co — Cu also Sulphate

Precipt Co as CO_2O_3
from Co + Ni sulphate
for 59 lbs metallic Co
requires 100 lbs bleach
159 lbs anhy Carb Soda
for 59 lbs Metallic Co

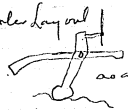
Make some tubes near open
burn off 005 2 3½ 3 lbs
press to stop burning
also new pinched Wales

tubes (Reg) [illegible] 18 KOH
3 K_2CO_3 16 KOH, 5 K_2CO_3

13 KOH, 8 K_2CO_3 - Embrittlement
+ splitting tests

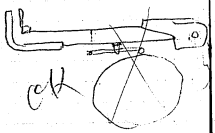
Oppy - How about mentioning
in letter 200 thread a spacer
hand on from some of your
+ clean Contr

Handle Long end



as against Reg lever

Worth

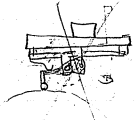


Recommended
Use adapter

OK

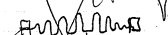
OK

Wheal



OK

OK

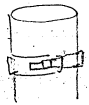


Very deep

Big amplitude

Smaller slope
Shaft

allow tube swell



ship shut.

oval see high capacity tube

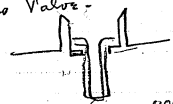
Use porous cup & 21% Electrolyte for ½ hour then put in $CuSO_4$ see if precip. turns black if so try it close then put in solution —

group with 8 Rings on tubes with even bore & halve any 1/16th + 1/16 apart —

Try all groups & magnetism also measure the one with free gas

flat spiral wound around wound smaller then tube + then alternately over the dif pitches, + middle

piece porous cup for gas valve —

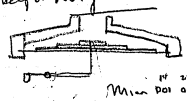


also open

+ dep in water —

Set up 2 groups each with 7 = 80 Tin 20 Non pyro H_2O_2 + without Hg —
ditto 7 = 80 Sb 20 Non pyro H_2O_2 5% + without Hg —
Lets Bismuth Non + no Hg

also 50 Fe 20 Tin 10 Bi
Self Melting —



1st 2nd
Min .001 .003 .005 .010

Fac seems to slip like an anti-spring but riveted in center —

Average 2 to 1

Hallam —
Boil a cell (old) 10 hours for 2 or 3 days —
ditto with 5 amp
Rev —

Try 2 grams Dryfleet Co flake cell fuse not reduced Hydro Fu —

Cl	27.01	I	126.55	Sr	87.37
Sb	119.96	Ir	192.65	S	31.98
As	74.92	Fe	55.91	Ta	182.114
Ba	136.76			Te	127.96
Bi	207.52	La	138.08	Th	203.71
Bo	10.94	Pb	206.47	Th	233.41
Br	79.77	Li	7.01	Sn	117.69
Cd	111.83	Mg	23.96	Ti	47.98
Cs	132.58	Mn	53.90	W	183.61
Ca	39.99	Hg	199.71	U	238.145
C	11.97	Mo	95.53	Va	51.25
Ce	140.42	Ni	57.93	Yb	172.76
Cl	35.37	N	14.02	Zn	64.90
Cr	52.01	Os	198.49	Zr	89.36
Co	58.88	O	15.963		
Nb	93.81	Pd	105.73		
Cu	63.57	P	30.96		
Di	142.12	Pt	194.41		
Er	165.89	K	39.02		
Fl	18.98	Rh	104.03		
Ga	68.85	Rb	85.23		
Gl	9.08	Ru	104.22		
Au	196.16	Sm	149.80		
H	1	Sc	43.95		
In	113.39	Se	78.79		
		Si	28.19		
		Ag	107.67		
		Na	22.99		

Precip by HS in acid Sol.

As - yellow
Sb orange
Tin Brown yel
Au } Brown
Pt } Brown
Ir } Brown
Mo Brown
Se red yellow
Te Black

} Soluble in Sulphide ammonia

Hg
Ag } black
Pb
Cu

Cd yellow
Bi Brown
Pd
Os } black
Rd } Brown
Rh

} insol in Ammon sulphide -

As Sulphide Sol in acid Sulphite of K or Sesqui
Carb Ammonia — Sb + Sn are not.
Tin reduced by Zn -

Relative affinity of Sulphur for Metals

Pd strongest
Hg
Ag
Cu
Bi
Cd
Sb
Tin

Pb
Zn
Co
Ni
Fe
As
Thal
Mn washed

portion insoluble in Sulphide NH4.
Treat with HNO_3 Hg & Pb sulphides may remain undissolved — the Sol. Pb detected by H_2SO_4 — Ag by HCl. Bi by the precipitate by NH4Cl or by K_2CrO_4 of no excess acid present.
Cu by blue color of NH4 Sol. or ferro K
Cd by precipitate of the ammoniacal Sol by Hydrosulphuric acid after the addition of KCy —

Metals precipitd by NH4y sulphide in presence of Chl of NH4y = Not to be confounded with NH4y before adding the NH4 Sulphide —

Sulphides

Ni
Co } black
Fe

Ur black brown

Mn flesh red

Zinc white

as Ox: also precip by NH4y

Al
Be
Cr
Ta
Niobium } Solm KOH green

Ce
La
Di
Yt
Er
Ter
Zr
Th
Ti } Not sol KOH Colorless

as Salts in presence of phosphates and

Mg

Ca
Sr
Ba } in presence of phos acetic Oxac or HYF acids

Precipitates by Sulphide of NH4y

Precip dissolved from KOH coll Cr Zn Al Be

Chromic — metals left in residue.

Co Ni Mn form double salts with NH4y & not precip — Fe Ur & rare metals

alkaline Earths phosphates etc are precip by NH4y Iron in presence of NH4Cl Hydrates of Ur & rare metals

Sol in Carb of NH4y Ferric hydrate less sol in alkaline Earth salts

insol — Ferric salts detected by Sulfocyn & ranges by appearance of opts

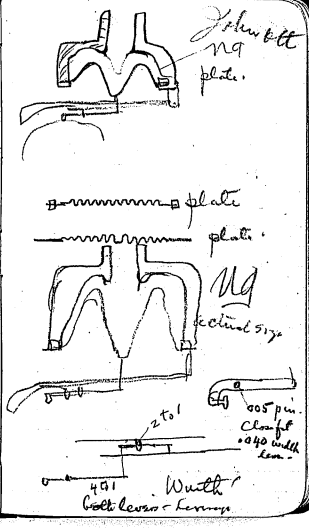
Hypophosphite Sodio is almost as good as HS in neut sol —

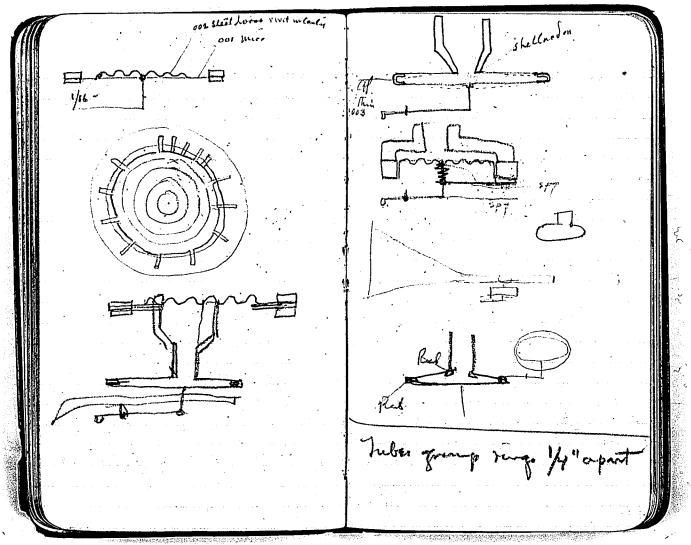
Bisulfide K dis ammo sulphide
best not Sb sulfide –

Patent Double & quadruple
dia. flexible of
Chamber compound of
chrome Connected to
Rod & pedal lever
pulled no powder
also no shine

Low oth Ing Sb in KOH
as anode,

Ask Dyer palentability
of mixing Antimonate
with glass Coal Control
Ultramarine – also
Barrite,




.002 steel horns rivet in Cavity
.001 brass
1/16
shell rod
Tubes grump rings 1/4" apart

Abt 8 oz of B. black from my Cone
salts - where it must go, —

18 Sm) Ulm 30 10 Cobalt flake
to see M Cumplimini — 21 % -

drills in 30 %

same M. Jeski,

Weight new cell

Pb Grids 6.	240. 00
180 Tubes	540 00
144 Fz Cups	360 00
Nickel Mix	1682 00
Iron Mix —	1080 00
Electrolyte	1500 00
6 Strap Holder	130 00
Can —	630 00
Rubber parts —	145 00
3 = upright Strap —	150 00
Sept 6 charged	6407 00

about 14.8 lbs lbs 17.4 watts per lb
75 %

4 1/4 1/4 1/4 1/4

Operetta,
Symphonic
Grand Home
Classic
Philharmonic
Grand
Operatic
~~Auf~~
Grand Opera
Beethoven
Orchestra
Grand Orchestra
Universal
Troubadour
Clarion
Patti
Sophrano
Lyric

4 300
1200 3
3 | 1300
433
733
1300
1386 4
1733
311.7

Shutter revolving front of Chalk cylinder & beam of light + other rays intermitted on emergent face of Chalk see of get effects X-rays etc

Diaphm - Rubber - over this ~~other~~ Mica with diaphragm hard & listening tube over well at Ft Hughes near Washington etc sounds -

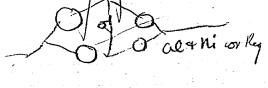
Cylinder of Shellac R S. treat for Eng

See of Scintillation from Metals with Cathodes dis. is defl. by Mag -

See of demagnetizing by knock also by alternation of an iron piece in a coil with Eng gives currents

See of an electrolyte can be found which when Zn is attacked it will form a porous ZnO or something close & sol which is electrolyte form near one of Zn Compound which has porosity, thus doing away with necessity of Eng & off to dissolve all of the Zinc —

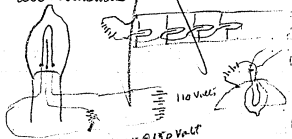
Use a 4 way aluminum reel for with Eng for wireless waves & for other waves use point grounded by glass



X 42 Eng - wet Lab 5 r
Cylinder with Compression
Chamber 1 cu Cm —
unscrew Rod, when put in
very fine grain powder if
Carbonized by and then
unscrew Rod, add K_2CO_3
Li_2CO_3 —
Try aluminate Na —

Aluminum Cylinder
Cooled with $CaCl_2O_3$ by
Current,

Quinchepate Solution affect
all varieties —



Cocaine - accounts 2/6
seems to kill transmission of
pain along nerves of this
is chlorid then Cocaine
Closed alone some Electrical
phenomenon or be the means
of conducting Nervous force
and possibly part in Kotter
b with wide a Cross connecting

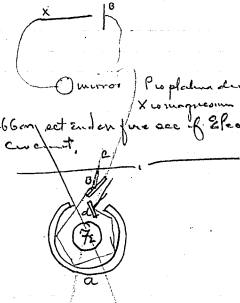
Will Cocaine affect a Sensitive
plant Venus fly trap -
will solid Cocaine affect
Nerves at a distance, thru
Matter —

Intermitting Ultra Violet light from arc in air are Quality unknown as going to give bad results and matter of low opt 500 phenomena or more phosphorescence [illegible] effect in fluorescent crystal.

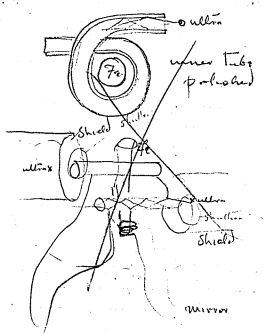
~~Thoughts~~

"fluorescence is to light what soft x rays is to elec"
phosphorescence is to light
what a [illegible] is to Elec
with fluors — the slow decay down quicker with phosphors the [illegible] remains, as minute impurities have great effect in both phosphors + fluors so impure [illegible] [illegible] [illegible] [illegible] [illegible] Sodium C 5, 86 [illegible] Etc

If 1 X ray tube gives a shot in [illegible] will 2 give it twice as short, if so a great number [illegible] tubes should have great power



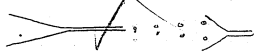
a is polished metal,
c Ultra violet ray or rays
Converging to ultra
reflected in rays out of d,
Core has on its end outside of hollow shell coil wire
Acc of Magnet wave use
shields or light,



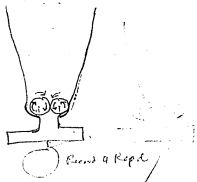
Electricity may be immaterial
Vortex rings in the Ether
of Frequency 1 to a wave
it would cling to the
cone. ~~or stick to it~~

Principal of Magnetism or Gravitation
may be due to formation of
Vortex sound waves & Chaos
Keep their direction only & reducing
spreading out instead of
increasing ~~a la smoke ring~~
~~from funnel & a smoke~~
~~& hat of 100 second~~
& Revolving Wires at Edge
of funnel & the deflection
of this wire so roughly the funnel
greater deflection Wave or Vortex

Should be able to do this



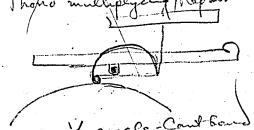
Receiving funnel & Repeat for funnel
planes of Vibrations ring formed



Velocity depends on wave length
CO_2 856 – Hydrogen 4163 Vel
increased by elasticity diminished
by density – Wiebe formula
(closed at end) molecules + disposition
air by H or one case CO_2
another ~~chlorine~~
see if any diff in Repdeg

Rotate a mass of iron of
say 2" diam at as high Vel as
possible guard it by shelf over
it of different metals making them
over it delicately suspended
see if any alteration thru
the fixed molecules of any phenomena
nat Lead Ni + other things
also phenomena the rotating body
with ~~[illegible]~~ X Rd Wave
Ultra & Light, heat,

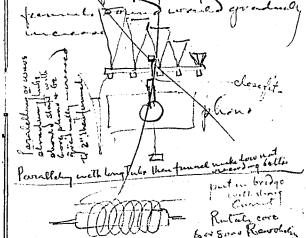
Phono multiplyer – Repdeg



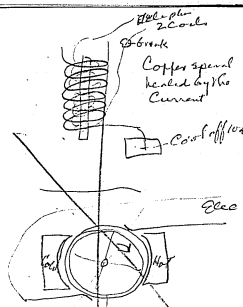
½ circle – Cant hear

Make a test record of Piccolo + go on down to lowest notes – then try funnels of every length & see if the same funnel amplifies the piccolo in same proportion as low not if not then there is either Vortex rings formed more or less perfect according to length funnel shape or length of straight part of funnel? Should any of waves were to be carried almost entirely by Vortex rings, equal then should should be found. (Were strings tubes of ~~[illegible]~~ a length better than just one length gravest note then funnel put on – with short tube piccolo would have perfect Vortex + low notes no vortex

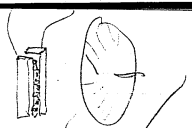
ought to have test funnels on rotating disk so could be quickly rotated + changed in fact rotated continuously short funnel then little longer + so on – on rotation of compared by changed funnels. opening varied gradually in succession



Ammended wave ends –



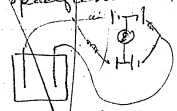
Shell of glass coated over ~~with~~
~~Silver~~ ~~nickel~~ with gold & then
plated with pure gold both -
also Ag Ni ~~Pt~~ other about
~~Pt~~ 0001 Thick rotate use hot
212 & 32 water tanks -
unequal heating showed gas
Current make long 3 mm
dia 1 inch wide breakdown



Opaque crystal: might
work dark Calcium, Mica etc
also for Heat Mica for
Ultra - opaque Crystals
ray Ruby all around all
but red ray might turn
the absorbed rays into Elec
on admission

perhaps Cals fluorescence
& phos well show
self fluorescence of gas in
Seal tube with organic
Liquids & heated to
off of at pressure
on tube fall fluorescence

all crystals in the reg system
deform in all directions alike
all other crystals
deform — specific direction



Cell with 2 electrodes
same — Bridge arrangement
Aluminum — Realfos —
Chemical reactions in
Cell or discharging Thermop
may and alternating
waves of current
Rapidly never deleterious
also use Cu wires,
Receiver also electrodes
dif parts Electrolyte scale
(not all attacked in the
Reaction —

Have the reactions
dysymmetrical in relation
to electrodes, heat one
Have reaction take place
vicinity one pole
Magnetics near one pole

Cell — al electrode plat
KOH, with Chromate
or some iodate which
H evolved will combine —
Then if no current in
outside use Cu wires
Recover of Bridge Al
Rectifier —

Try in sealed tube def
non sol crystals, use
aluminum + KOH, or
Zn + acid to make
great pressure
see if fluor or phosp
Charge red powder
pressure or amplify
poor fluorescence
Calcium Carbide
Hydro Carbon + Li3Po
H2O sufficient Carbon
with Ca Carbide to
make pressure

Try NaOH on cake with Fe Sb

CILO

60 Fe 40 Sb. One pound each
70 Fe 30 Sb
80 Fe 20 Sb from Oxalate
85 Fe 15 Sb
90 Fe 10 Sb Duplicate from precipitate
95 Fe 5 Sb from Chl Sb + Fe.

also other ways —
Self heat + Non pyro - with + without Hg
HgO to be added 5% + 10% —

Bontron Spder Salt —

Thus 90 Fe 10 Sb self heated 5% HgO
90 Fe 10 Sb " 10 "
90 Fe 10 Sb Non pyro
90 Fe 10 Sb " 5% HgO
90 Fe 10 Sb " 10% HgO

5 tests on each lot.

---

after reduction by H test race here much Sb left per ppt at all goes off as Sb H in reduction —

---

80 Fe 10 Sb 10 Bi One lb
Self heat + Non pyro - with + without HgO 5%. 10% —

---

70 Fe 30 Thalium } 1/2 lb each -
80 Fe 20 "
90 Fe 10 "
95 Fe 5 "

Self heat + Non pyro - with + without HgO 5%

---

80 Fe 20 Cerium,
90 Fe 10 " Non pyro + Self h 5% HgO —

90 Fe 20 Titanium 5% HgO

80 Fe 10 Sb 10 Cu 1 lb
with + without HgO - Self h + Non pyro

Mix with Reg Mix some Tellurs acid

Look at the Non pyro samples under Micro also bulk by weight in loading —

2869 } 1700 } 20 Bi 80 Fe
70 } 1675 } 5% Hyd non pyro

2883 } 1950 20 Sb 80 Fe
84 } 1900 5% Hyd non pyro

2885 } 1735 20 Bi 80 Fe
86 } 1730 no convey non pyro

2507 1800
2508 1800

2934 to 30 to V 47 G Non Pyro
35 1345 1300 80 Fe 20 Tungsten
39 1312 1280

2932 2150 1670 41.g. sulfide
33 2212 1757 80 Fe 20 Cu

2936 2680 2210 50.g. non pyro
37 2265 1845 80 Fe 10 Bi
20 Tin

2938 1680 - 1635 47 g sulf
39 1680 - 1655 80 Fe 20 Tungsten

2940 2165 1890 50.g sulfh
41 2185 1900 80 Fe 10% Bi
20 Sn

~~2869 2025 1700~~
2079 1645

2907-8 is Na ferrous SO4
roasted & reduced by H
~~[illegible]~~

2877- 80 Fe 20 Tin
78 5% Hyd. sulf roasted

2881 80 Fe 20 Tin
82 5% Hyd non pyro

1180 Tubs - 2400. Gross Rind 1066 1071

816

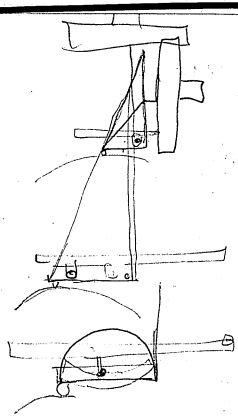
Tubes - Amp Effcy

			amp
1 Hour	94 %	73.	36
2 "	92 "	74	72
3 "	92.2 "	71.7	108
4 "	89.33 "	69.1	144
5 "	86.62 "	65.	180
6	80.20	60.2	216
7	74.5	56.1	
9	66.2	49.5	
12	54.6	40	
	37.3	34.7	

Big Cell [illegible]

156	77th	161st
157	127	115
160	125	100
158	123	101

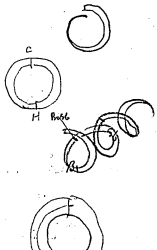
150 Runs probably expired 16 months when not resulted 24 months resulted in [illegible]



½ — 20 — also build up furnace 18 from 1/2 inch 2 feet of

1 see W with new reflector - question new drawing
2 Process by Mr Cl's Silica lined Crucible Podlin's Journal.
3. Moyer about Drain shelves.
4 Iron Silicate, slag - pour for Drain
5= Round Brass Curves like Hg
6 Try SO_4 - on final res. Lead with SO_4 Mach
7 Cracking = Crucibles for plating flake
8 Lip plates of Fe in Cu By Aq. Sn Sb
9 Sep Cu from Co using Cl Hl + Hl by in Hl and dilute Sulphuric, = Electrolysis with inert anode
10 Try Hl Sulphide to separate Ni in 1 Co Cu
11 - Copper foil (Collate Mix with Hl)
12 Cracking Nickle Copper foil with Zinc + or Iron + Hl Sol so not to reduce
13 Jobatt charge slag pp. Ni - no bin of Cobalt
14 Cracking tray plate Co only dip Copper. See if work without plating Cop. only dip
15 - glass 200 mesh free Calm roast with 200 mesh acid, - moisture -
16 Jl Miller furnace 1000 g fuse of Diorite
17 glass slow low temp roast long time Fro off to help

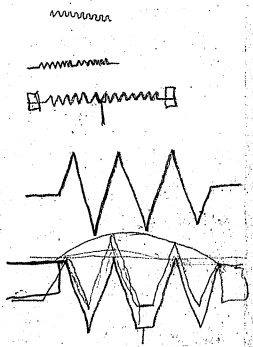
18 Try 200 mesh mass with Blende + heat.
19 - heat in HS.
20 - Melt roasted ore in $ZnSO_4$ -



Francis Bacon
15475 lbs 49 577
#1. daily 50@62
alumina 24 to 28
Ferric ox —

Ca-Ala
1904 21913 lbs
aluminum 25000
Value $550/100
highest grade

~~[illegible] Co~~ most all
Niagara Electric Chem Co
buy it for all salts



Notebook, PN-07-06-15

This pocket notebook was begun by Edison in June 1907 and was probably used until mid or late 1908 for notes and drawings regarding experimental work and other tasks to be performed at the laboratory. Many of the experiments pertain to the composition and performance of Edison's alkaline storage battery. Others relate to phonographs and phonograph records; radium, "scintillation," and radiation; the chemical properties of boron and boron compounds; and Edison's kinetophone. Among the employees mentioned in connection with individual experiments are Ralph Arbogast, Walter E. Holland, Alexander N. Pierman, and Herman Wolke. The book also contains numerous entries regarding patent, business, and personal affairs. Included is a reminder to pursue a patent on a "new kiln aging process" for cement and to evaluate recent patents on phonograph record blanks. Also included is a comparison between process patents and musical copyright. In addition, there are notes pertaining to Edison's investments, the Essex Press, the Douglas Phonograph Co., the costs of cement production, and market shares among motion picture companies. Employees mentioned in regard to these matters include Frank L. Dyer, William E. Gilmore, and Alphons Westee. Among the entries of a personal nature are notes on medical books, including one work by William Osler and another about intestinal diseases, and a remark about "setting [the] NY Sun right" on who invented the kinetograph. The pages are unnumbered. Approximately 80 pages have been used.

PN-07-06-15

110
20
130
125
255

5 | 425
125

14
4
56
25
81

81
20
110
211

June 15 1907

Use radium tube & Willemite fluorescence
& observe thru aluminum plate —
it brightens when powerful arc
lights. Violet is allowed thru
Radium on & off —

For Le Sage use 2" Round iron pointing
Center smith & 25 or 30 ft long with
Radium —

Iron is more likely to cut cos in daylight
should there only either ⊙ or Balmoral
at first & wards -

Sensitive Hours is with
Comet Tam slit — dark back
ground, then arc light thrown
on particles to reflect
light to photograph off

Scints – Try every metal to deflect scints by magnet –

Try all metals on Emery wheel –

Catch Scint particles in glycerine on glass slide then micro –

See if Scints will throw a shadow – Scints throw a shit that Kinetoscope to Enlarge on screen

Walk – Compressed air in funnel –

Write Jeremy Congdon Cressmore Quarry for samples Great Limestone –

Only suggest Sachrite Lime then Carbolating or More Sachrite Lets do Li_2CO_3 & precip by Carbolate –

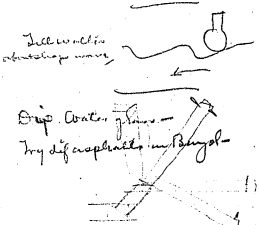
See Miller & have him write Niagara falls Soda people if we showed them 1/2 cent more lb for Na Carbolate if they get it free of $CaCl_2O_3$ & reduce the iron somewhat that we are prepared to use a considerable quantity

Draw out for Walk – 45 deg Recorder & Replay

Walk

~~Glass~~ Feby 2 1908

dip second very thin film dropper
before dipping Crystographic Cardboard
dilute to Cellosc / Throw out the Copper
Chill out second —



Recorder angle 45° Reproducer same
for reproducer round the Cutter Sapphire
Can get louder record without
jumping out —

Try film dropper & Card Sr

Oleate Ammonia see if sol
anything —

Saving Cement

	Mils
Rock Crushing by 1 Shift	8
chalk grinding loss/acclimen	6
Cement " "	5
Newcobel delivery	20
Gypsum higher lime Cement	10.
Wholesor + Rawb —	100.
steel balls —	16
10% Reduce wages	18.
increased output 5400 to 6000	36.
General improvements by changes	20
	239
	44
	283

Possible

fine grinding Coal 9 lb bbl	10
Coal for air Compressor	3
+ Oil leaking from 1 Otero	
Better Chilled plates	1
Better pkg devices —	5
Good boss fireman —	
Output 7000 days —	25 5
	44.

Excelsior — ~~Glycerine~~ (Can't give
can arrange with Geo Morrison —

Dr Ld make CP Cracker —

K permanganate is used to purify
it doesn't actually crackers

Feby 4th 1904

film dope surface - Make a Room Record
to dip film dope boat - also Coat inside of
a Washer with film - removed a Rivin Record
Stiffen the Rivin - this is a tricky method
pull film off -

Show film - Frank Oaman Cather
suggest monthly book kept up
but separate list once week -

Rumors about Wilson & Emerson
speed orders generally get them
broken -

Wattee - pay roll phone wks when 7 @ 500
more + now -

Dyer - did he patent new Kiln
aging process Cement -

The best film dope equal it
& throw in fine, dark) matter
say $SrCO_3$ - while equalizing them
heat - & then cool - remove &
back up -

data for our records the means of
$SrCO_3$ varying quality & way removed
it from theatre -

depressed in very thin Paraffin
Bright to heavy in excess of thin paraffin
feel than dip dope film -
This will detach OK if think
also is neutral electrolyte & valuable try dicks
for preliminary tests -

400 (wire) double the speed this brings wear
back to or equal to 200 (wire), but the grain
is times as thing wears -

Perhaps dip a record in very thin
Room - then dip in film dope & dry
well used it -

Blush record with Cobalt or Fe
reduce to Cu wash dry & dip or
spin this gives metal stamper
Can probably plate a thin film
on it of Cu or Ni - as stamper
ok -

obsidian - 7 $KNa_3Al_2Si_{10}O_{25}$
its orthoclase in glassy
state

Olivine Chrysolite Peridot
all 7 - $(Mg, Fe)_2SiO_4$

Vesuvianite (9 decorne) 7
$Al_{12}Ca_{24}(OH)_{10}Si_{20}O_{77}$

also Thumite

axinite $H_2(Ca,Fe,Mn)_4$
H.7. $BO(Al,Fe)_3(SiO_4)_5$
fuses easy to a black glass

staurolite 7.5 $Al(AlO)SiO_4$
infusible

Schorlomite $(Ca,Fe,Mg)_3Fe_2Ti_2$
H 7.25 $[(Si,Ti)O_4]_3$
fuses to black glass

Boracite $Mg_7Cl_2B_{16}O_{30}$ H 7

Rhodizite $K(AlO)_2(BO_2)_3$ H.8

Titanium obtained by mix
Titanic ox with 1/6 its wt of
Charcoal & high heat
Say arc mix KCy
~~[illegible]~~ to glass it melting
get Nitride —

Silicon in needles

introduced into Red hot Crucible
a mix of 3 pts Silicofluoride 1 pt
Sodium in small pieces 4
parts granulated Zinc mix
must be kept at red heat
but below clamp required to
volatilize Zinc till the clamp is
completely melted then
left to Cool, dissolves HCl
Silicon left in long needles
very hard scratch glass

~~Dana speaks the mystery~~
~~he says — where —~~

Powder up silicon 100 mesh feed
like flake & make a tube with
719 grsm — little Bismuth
little Chromium ~~little~~ phos-Cu alloy
little Si Cu alloy

7 layers Ni on 10 drams
1 lb —

5.8 comp. brass equiv to
6.34 grams Ni
10 drams 63 grams

Charles —

Make Tungsten Iron alloy
detts Ni, Co, use just one
much iron ale only as wire
give polish — then make $.50/oz
Alcoa pack in leather thoroughly
Carbonize + throw in H_2O —

detts Siliconize —

Diamond for W Walter recorded
Al_2O_3 + small quantity Si +
K or Na — fuse

get residue from CaCarbide see
if anything like crystals in it

(Oil find) A Joly Compt R
97 p 456-458 — important.

Acc Maisch Chem Centr 1889
2nd 905 — Preparation of Boron

L Gattermann (Ber 22 186-197
says
Boron is prepared by heating a
mixture of Magnesium one part
+ dry Borax Two parts (covered
with a layer of Borax to keep
the air out) in a Hessian Crucible
for a short time. The product is
powdered, extracted, 1st with H_2O
hot, then with Boiling HCl
it is then washed dried + heated
with Aluminum in a Crucible
when splendid Hexagonal
plates are obtained —

Boron Nitride by heating NH_4Cl + dehydrated Borax white powder ~~is~~ probably ~~may~~ this in Aluminum in Crucible with Atomic cubic form
Boron + Titanium Nitride -
Very many technique ~~in~~

Ramsen says practical difficulty getting Boron in that at high temp combines with Nitrogen
Says best to form Amorp Boron with Magnesium

If amorph Boron is pressed down tightly in a Crucible a hole bored in the Center of the pressed mass a Rod of Aluminum dropped in the Hole & Crucible heated to white heat, then dissolving out by KOH. large yellow Crystals of boronide obtained
If B_2O_3 & Al fused together smaller crystals are needed obtained

also see Hampe Annalen 1876 183 75

also prepared by heating powdered aluminum, Sulphur + B_2O_3 treated with H_2O Al_2S_3 dissolves see Ermalem 1867 141 268

Boron crystals monoclinic pyramid or prism

amorph Boron made by heating 70 grm Magnesium powder 210 grm Boron Triazide - dilute acid to clean & then to get rid rest impurities fuse with Borax + then cool treat HCl, see Gattermann Ber 1889 22 195 Winkler Ber 1890 23 772 Loring Annalen 1888 247 226

Aluminum Boron,
Wohler & D'ville
Annalen 1857 101 113.

Dyer patented the process
pat same & took receipts
position than a Copperwright
Long good argument

Tell Webb about Records out of
true & work on offers from
Elec man –

Bail 10/1000 30 000 Rev mm
40/1000 7500 Ft "

To make gelatin stick to Celluloid
reduce the surface slightly to
Celluloid before applying Emulsion
Leave this for Dry
when I gets Fla –

Melt Carborundum in arc furnace
ditto in presence of lots of
Aluminum in
presence of Copper –

Dyer pat pat 869114 Oct
1907 J A Tucker
process mfg Boron Carbide

chips remain suspended of time
add nitric kettle of acid – Cancel them

Pack some Silicon in fine charcoal
see if it will form Silicon Carbide
at very high temperature –
furnace first the arc –
at same time put – some
tungsten filament – in
arc furnace & report.

Melt Carborundum mixed
with Carbon in arc

Make Carbon by arc Reg process
at ordinary temp –

acetone heated with $ZnCl_2$ yields
Hexa-methyl Benzine –

Dr G Bramith Triphenyl. very
2 of Ether + petroleum Ether
Zany made – New wells
under Bi DOH for flavoid

Lake same of adjacent Carbon
Under CO or Lat + petroleum +
Soak nearly just KOH
Then dry & dip KCP
Bi Acetone – wash acetone
+ dry over temp –
boil KOH – + Rem by Sponge
Kinds tubes –

Group New tubes
dipped Cone $Sr Cl_2$
dry – then soak Cone
$NaSO_4$ – of wash out
2 KOH – + petroleum
719 2 h –

721 628 –
Group plain + 2 KOH. + 1 KOH
dip CP Bi Acetone dry + attempt
temp – boil KOH –
4 6 + 8 Range

Carbon Bromide / 66 pts –
among Boron a 12 pts
Carbon from sugar heat
Elec furnace or dissolve
in Cu or Ag – – fusing
dissolve metals out by
aqua regia + Hard
black diamond from Crystals

Moissan Compt R 1894
118 556.

Carborundum formed by mix of
Coke sand + Salt
also by fusing Silicon + Carbon
together Muhlhauser Zeit anorg Chem
1893 5 105 –

also forming Carbon Carbide
with Silicon
when by reports of C & S,
then they are in presumed
needless

Silicon Boride
Compt Rendus 1900 131 139
Hexaboride thick black
Crystals Opaque hardness
between Sapphire + Diamond
they conducted Electricity
Its salt in Silicon
Acc Schoenherr + Roscoe
latest book

L Ott make several
gallons BS [illegible]
paint for Mallory
Have him test the
paints Mallory got

Wether put up a new
7500 gm Dynamo - 4 719 Tube
plain + 2 L104 -
4 B104 - Electrotyping

Bonds Cement Co
Water "
prefd Com "

N y Phone Stock
E phone Bonds
E " Stock
E Mfg Co
E Battery Stock
E " bonds
Mining Explor Iron Stock
Amalgamated Iron ore stock
Eclipse Ore Mfg Syndicate Stock
Bergman Storage Battery Control
National Phone Stock
N y Gas Co Stock
Ogden Iron Co stock
other bonds
N y phone Co stock
E Ore milling stock
N y Conduit Co Stock

Roops if he is using heavy
iron for iron gas — Film boxes
placing for F.H. Hale & Nickel gas.
7/19 2 hours
Thru 30 fumes in
" 40 fumes in "
" 60 fumes
21 K + also 1.001 —
60 fumes — dip $BiCl_3$ XCP acetone

Having ill [illegible] about [illegible]
of Illustrations Tom [illegible]
Mr Stickney [illegible] Chromium
[illegible]
J C Kopa [illegible]
Capt Keller — Illustrations

Dyes — patent ball reproduction
Double dropping (ie) dropping
on weight —

Film ~~[illegible]~~ Mfgo acetone
Continual ~~[illegible]~~ foreign film —

Dyes water from aboard
200 Thread shape
packed

Solution to dip tubes in to be sent north —
Conc $BaCl$ from Na_2SO_4
" " " KSO_4
" $SrCl$ " Na_2SO_4
$SrCl$ " KSO_4
Anthracene in xylol solvent. | dip
" | 4 dips
$SrCl$ — $CaCl$ Na
$BaCl$ "
$CaCl$ "

Color physics gas fading — use gelatin
emulsion infected by heating bacteria then
expose the plate to mercury vapor — Cause light
to kill the spores & bacteria then develop the plate

Dyer - see Emerson's pat
878513 - injection on
strong bulging patient

Dyer get pat No
869114 Saul A Tucker
Born Canada - for
discs etc —

Try chromate Bismuth
dep tubes —

Get the Radium from
Holland & [illegible]
[illegible] —

group - 72 No Hg but good Bismuth Mix
use 719 2 h — 21 4 alkyl Liott
dup 719 - dropped Cacodylate Bi - 21 + alkyl Liott
dup tubes —
dup 72 no Hg - 719 dup Gatch tubes
Cacodylate Bi - 21 of Liott.

Look up left 72s without
Hg —

group No 72 use Bismuth reduction Liott.
719 - 21 + Liott.

group Reg 72 - 719 - dep tubes
Cacodylate Bi - 21 1/4 grm
1/2 grm 3/4 1 & 3 grm
to acc minimum Liott —

Dr Homemann Ferrum Oxydatum
Saccharatum Soluble on
alkalis - Have Dr 9 look it
up —

Dip [illegible] in all the [illegible] his [illegible] of [illegible] mixed KOH, Bi_2O_3, $BaSO_4$, Mg Thorium

also each given in an Electrolytic H2P in lead & [illegible] out.

Solution for detecting Bismuth in bright [illegible] mixed for analysis:

Dis CP. $BiNO_3$ in water containing 250 Conc. HNO_3 per litre, to a known quantity of dist. water & [illegible] phthalein then NaOH drop by drop to alkaline reaction. The precip (formed is dissolved by acetic acid, then add 2 grms Borax and Sol. dilute & heated to 70-80 + the [illegible] Assay no 15; bismuth is deposited on [illegible]

Precip phos Bismuth in parts; ~~also Chrome~~

Hexamethylen Barium by precipt. Thorium Sodium Metaphosphate with $BiCl_3$ - gelatinous mass translucent & brittle [illegible] may be of [illegible] Calcium [illegible] a big [illegible] [illegible] gold

Bi [illegible] [illegible] phos [illegible] - dissolve to [illegible]

Tri [illegible] phos & the Calcic phos & Lithium Aluminum phos [illegible] KOH, this may have something to do with the [illegible] resolution

Sodio-dibasic Orthophos
is a bad sol at ordy temps in
Mpos the water – perhaps
or tribasic Orthophos soda ph
gives this prong much
L&R gives good results
in 2% K solution

Monosodic phosphate
dissolves a large quantity
Bismuth Oxide

Di Strontic salt Orthophosphate
not decomp by alkalies

Mag Ammonic phosphate
ammonic phosphate

Tomi Pyro Metaphosphate Orthophosphate
Sol green with Ba Sr Ca Be
Zn Bi Hg Li Cd Mg Sb Mg
also Di Mag Tetrap – Meta phosphate

Chemy

Phenol in Collodion – more so in
L&R hard bottle frame small of 1011
Certh. the presents gray precipitate from
[illegible]
L&R also temps below freezing
[illegible] on hot the so good
because low [illegible]
[illegible] 1 alcohol at 100 prevent [illegible]
+ gives solid Co precipt. behind
[illegible] the 100 point temps [illegible]
[illegible] appear not [illegible] precipt
[illegible] investigation must be
[illegible] in bottle & corrosive
[illegible] 100 point slowly on [illegible]
[illegible] not [illegible] to 130 which
[illegible] the Hydrate Reagent

[illegible]
is that the ppt [illegible] the [illegible]
of [illegible] gives 105

perhaps get Hydrate Vallopp on well

Tubes — soak long while in 1st Sol
then dry — dito 2nd Sol long while
wash & put in 2d Wash
Dry dry at dead slow heat first
in 2d K — dry the way but a little more
Dry after 1st & complete operation
& dry before putting in KOH.
Make quick dry ~~[illegible]~~ quick
put in 2nd Sol or cover yet
small porosity —

Illustration 4 Examples of Each Kind

Dry one CP Chlorate KBr
and Chloro. or KCl, relational
of p dev —

Make of any Bromide Iodide
Lukes boarded if not make
Id proper use of [illegible] any

Sulphochloride Barium is usual
Lead Sulphate —

Ba Fluoride OK — Dry Acid
usual Fluorides —

Carbonated Phos Bi usual
KOH —

Antimonic is Ca Ba Sr —
in gross — worst of coming out
only K Salt usual also [illegible]
Na Salt usual — ~~[illegible]~~ little Sol in the
KOH. well & without KOH —

Dry usual Borates
Zirconates
Carbonates, especially Ca CO_3 —

Como Hydrochlorate Aniline
Soak Lukes — then wash off
recrude always Cement in
KOH, Aniline & Iode in porosity
also try hypochlorite K
usual Cement, refresh in
Iodine & Chloride —

on the 2nd run the iron go bad
on Bismuth & notice Sn long-
tube with KOH - Y Hunter thinks
is due to the KOH dissolving out
the Hg to test this get the KOH
out & put in Hg on board now
see if comes back

Make fat bullet & dip arms
in the Saturated sol. of Sodium
[illegible]
in Salt Peter & see if get
also some Permanganate through
Col & test - also try a
Battery

Pack a tube without
flake, then clean in
BiCl3 & test
~~flakes~~

As soon as get North start
with Reg & with Bi tubes
a lot of iron tests different
irons - Hg amount Hg dif

pressures - also Bi dip -

also Red ox with Hg0 mixed make kind
often changing & dissolving away dry &
sheparing [illegible]
Get all tests, use 2 long
tubes for Bi & Hg in [illegible]

Try Reproducible irons that have
gone low with Bi tubes, [illegible]
dip in Hg SOH
also reduce in Hg dip [illegible]
with a cathode [illegible]
Run irons in Dry KOH no [illegible]
to see if it changes
also try [illegible]
Get book [illegible]
short [illegible] etc -

Take out non from Bi Liter
& run as usual for what I
run last & Cobalt & red
look up all that runs of
non-acc Anodes without
Di Oth, with Nickel, & also
those fais that had Bismuth in

Charge & decay a
ground 21 also 21 Di Oth
in 1 large Cell (+)
Reg out Cell Keep heat
down then put in
small anodes & run
Reg in & see if
High Heat Feed

About Corrugating
flake after subdues
& before filling

see if strip of Ni plated
Bismuth will act as
Nickel Off. a little

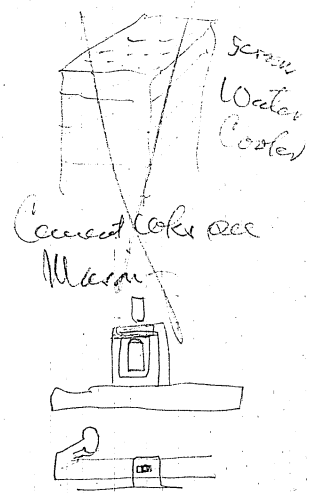
Consult with RA with
both our people &
also have RA call and
make some tests on
RA groups to get at
best green

Charge a tube that has been
running some time in
21 one in 21 2 di Oth
& one of Bi &
then wash out alkali
see which one goes
black Colloid

Take good green
make grade 21 21 1019
x 13 - 22 250
300 350 400 [illegible]
[illegible]

Precip a batch [illegible]
with KOH. use [illegible]
NaOH, use [illegible]
green [illegible]

Dilute [illegible] batch
with LiOH.



Bicho Hg perennis Treatment
Pub Scandens of Phil.

Diseases of the Stomach
& intestines
By Reed [illegible] Treat
[illegible]

Modern Practice of Medicine
by Osler & Lenox [illegible]
[illegible] Bros & Phil.

glycerin -
Try Borax or Silica - or excess Magnesia
See can get good Carpel

~~Dip tubes in [illegible] VCR Bich~~
~~Coat, dry then [illegible] Iodide~~
~~Then [illegible]~~
group 1 1 gram Bi Oxi in Sol
of Tubes dipped Hg Cl & then
Ammonia - 2 [illegible] -

Let tests of urine with tubes
dipped Bi Hydroxide -
say 30 or 40 grains - non
dipped Emetic Phos, Phosphate
Bicarbonate - 2 hr - No Hg Cl
+ Hg - Phos - No Hg Cl Bi
No Hg + Sul 2 [illegible] -
Try Red ox chrome + then dip in
Hg + Emetic Phosphate or Sulf
also no Hg - 2 Not 2 Cold

Daily men Sam 7/27
up till it gets out black
then work up off of the
black Collars & let it
dry & ship it —

The RR must evaporate out
of the iron too freely —
fill with Gold red Lake
Ni Od, Bro Ni Od in
porro by precipitation from
of Ni Cl2 & Sulphate

Try clean BS with Bone
black to clean it &
make white —
also alkali to take
Copper out —

Casparis Slag Co
sell to US Steel at
~~Steubenville~~ Ill — probably
one in Columbus
PRR Ballast. Cap
5000 tons 10 hour
in Freedom 3000
Illinois 4000 —

Ohio Casparis Slag Co
2½ m NW Columbus follow
Scioto River to lake —

Indiana. near Trimmer
Cass Co Ind —

near Stinesville Ind
Monroe Co —

Lowe & Co to distill BS
alone - down to Hardness
taking out Synopsis to
see if [illegible] [illegible] chief
for photo [illegible] [illegible]

Iron dipped Sat 5 pm
Ferric Chl in dilution
1 dip Hen. 2 dips 2nd one
opinion — 3 dips 2nd + 3rd
Lords most [illegible] — dry bot
Each — Hen Kott Hen 5 dips
all but 1st [illegible] —

also 1 dip dry Hen Kott
wash dry & dip again
also 1 dip Hen Kott 2 do
3 do —

Dally take bad B. Gum
Be sure it is not washed
in water after clean Cold —

2.13 lbs Fe. 16c 40% qual 47.74
Flake .41 not ex on H — not 40% 68.74
2.28 Ni — 4-40% qual 87.23
Hgo " " 1.92
271.63

Ni OH without qual 27.23 lbs —

get up Hydraulic
Calculation showing
Hours to put on
all elements
old pressure

Dyer about packing
wheel delivery w/
Monroney & Swazey

Kinetoscope Manoll Dance
dancer

Leland Powers
Elocutionist, Chatauqua

Mason gives us
Coal Crusher. How about
removing the crushers breaking
or a rotating cylinder
screw maybe

New Theory.

If you run Cement in a mixer
the Outer surface of Cement
becomes Calcined — Megally due
of the grit rubs off and wears
the Coal, as off of fresh
Coal and form as is worn
off — Therefore Cement is
improved automatically
by mixing way beyond
the time taken
mixing is perfect

Saturday May
11 08 pm
Orange & Chalem

Write Mason by
under leather bed
Personal Check for
matters over

Dyes = status of application
Photo Roll

Tell JVM matter of
Charles try no loss
therefore use call
Fixtures from B Box

RR 1117 Lookout

Vestal Bldg 31 - Windows
39
Luther E Gregory
Cod Engr USN

Speak McChesney Sign Electric
Edison Through

Try a 7c with the Sol. of Ca
bicarb green + peroxide
dep $HgCl_2$ alcohol or acetone
Take a bad Bi Green
+ dehydrate it at 300
in Oil - get rid Form
Hydroq

400 (Brand) asphalt
ground with Sulphur
& whole foam Expand
on mixed — MG

Viscose

Cuts machine —
use film dropping fraction it

Put up some Bismuth
MG Cold —

put up 9012 with Bismuth —

Dully reduce on
graphite — melting in
H. N. 2to 10
very high temp

Work at Hexamfield

Test machine joints —
Viscose
Internal Screw 4 friction
Checker work in Coal Kiln
Blower —
Nearest Extension of Crystal Gelum in hill
Bags —
Extra Mixing of Cement —
also
a Coulrofiqd
To separate Cement from air
Holding internal screw fan
Coal Cyst and Gadgeons

Phenoplex slight
110. name JAE
5 sh —

~~Birth Rally~~
~~Shipped to Works~~
~~March 6th 1906 —~~

~~Cabart [illegible] big [illegible] [illegible] —~~
~~(Coals Start) — Idea~~

Shows 169 Total films 531

Pathe	252	
Edison	60	
Vitagraph	60	
Kalem NY	14	458 - Combs
Selig Chicago	22	
Lubin	15	
Essanay Chicago	18	
Méliès French	12	
Gaumont French	12	
Cines Italy	12	Under
AB Lux	5	
Biograph	10	74
Edisque	5	
Nationale	28	
Odd	2	

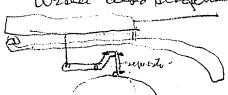
Edison 11½% -

Clement
House 18400 sqr ft - both under
outside - Each section 8 sqr ft

2300 - 275

632 cars 2600 —

Express Press – Chromatic Dept.
1 year ago –
Express Press Organized 16 months –
Pulmers stockholders –
Wistec also stockholders –

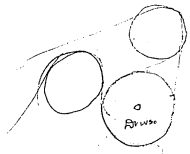


also

separate bearing
[illegible]
[illegible]
[illegible]

* also plain upright
best X bearing [illegible]
will work but without
[illegible]
the link –

Make [illegible] Viscose
instead of [illegible]



to get [illegible] room 109

① Crystal treated formaldehyde
acid at 100° gives a new
[illegible] substitute for [illegible]

for indestructible phonograph record
mix lampblack – fullers earth –
with Viscose in press + heat which
[illegible] a [illegible]

Try the Record graphite
instead of lampblack
in [illegible] –

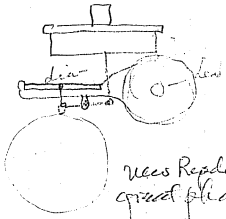
Cost film now		Dumping Cost
film	3.114	3.114
chem	0061	0061
pkg boxes	0.015	0025
Labor	0409	0327
Neg	0670	3.527
20% expense	0954	
	5.223	

Selling price film crown — 8 1/10 cents
" " Jeffers — "
Can sell at cost + make 32% profit without selling expenses.

Costs abroad London 0353
Paris 0357
Berlin 0368 duty paid

~~Wyman & Gordon~~
~~product for~~
~~J H Stoats~~
~~2 Minutes~~
~~Comment~~

Moore ~~the~~ Tin Soldier
powers
Ermini Franz Wien



Uses Reader for
general pleasure

Walter Miller Dungeon
smaller dia round 2 oz
Friend Moore Sensitive

~~looking 9010 11 12~~
~~to supplies~~

Bys:-

1 = Block Mf Co — New Zealand Phosphate Co

2 = about sec contract (Calcined) plum

3 Pongaroa Mf — reclaime [illegible] W Miller [illegible] up furnace depth How much onto

4 Blackburn [illegible] Onagaia

5 — Milfoy [illegible] of Sub-[illegible] of [illegible] lime + sand

6 Who makes plum water + who manages it? what station does work pr [illegible]

7 = about deed of [illegible]

8 = about block [illegible]

9 [illegible] output 2 million [illegible] Co

Saving	Mills	Result
Rock Crusher 1 shift	8	7/15 original
Chalk plant less cleaner	6	
Cement " "	5	
New wheel deliveries	20	
Gypsum higher lime Cement	10	
Washer + Rumb	100	
Steel shells	16	
Reduction wages	18	
Increase output 5400 to 6000	36	
General improvements	20	
	23.9	
Possibles		
Buy Coal	10	
Oil leaking 10 Pers	1	
Roller Chilled plates	1	
Machine Hummer	10	
Rumb onloading	1/4 mill	
Take up + belt mch.	1/2 mill	
Increase output to 7000	27	
3 Kilns 1 man	1/2	
Burning Coal 40,000 tons	15	
	65	
Still further		
Crushing Cement Rock	10	
Cheaper Rumb 3 + 4	10	
Discover Calcite on hill	50	
Yo[illegible] in quarry		
[illegible]	25	
Stronger bag	5	
[illegible] Coal	100	

60% Blue Rock — 840
60% Washed Ballast

25% No 304
15 Rock —

Thermoplastic Cost 75c per Ton
40c for 304 + 14 Cement
for Cement 30.10 per ton
[illegible]

20c for 304 — 60 Rock 14 Cement
23.15 ton 7.74 [illegible]

Dyer patent used
Identical —

Try 005 Scratch
longitudinal on records
& double roll —

7 layers — 1 lb of
Melted Flake —

Cent 14 — 840 —

25
40
700

14
40
840

1000
1170
301

25
40
100

15
75
100
75
75

21
20
50

100
175
65
75

500
975
840
23.15

14
6
840

23.15
NP

1 = See if O'Keefe overhauled, our OK now recorded

2 = How would it do to notify Stockholder under knuckles our claim? Have not Hazel decision —

3 = Drawing plans in Blumenman's Index 1881

4 = How does Wilmarth's Index Cover?

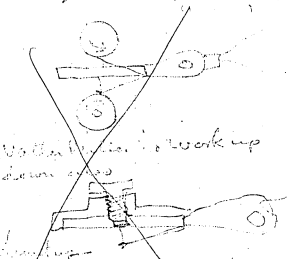
5 Dyer claims patent Bottle Rack

6 = Perrinan & Galwell. deep pr clockwk for new mechanic rylia & Continuous Keep shave

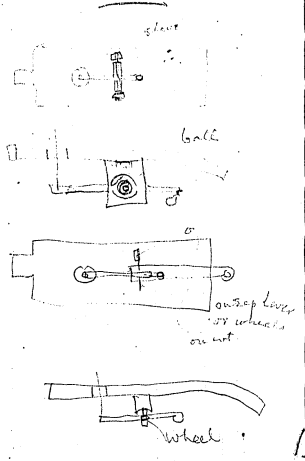
Holland - gt Perrinan on Cuts; see if Cutter or Mr. 9017 [illegible] 12

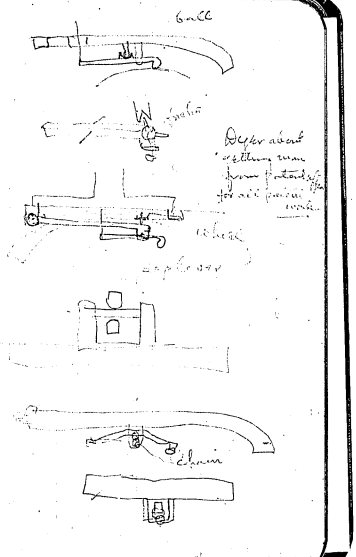
118 116 110 — [illegible]

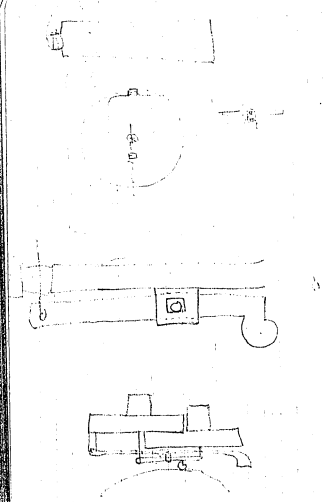
[illegible]



Otto Lilienthal's A4 glider, got out 20.5 feet in 1 sec 24.5 feet in the other showing 15½ grams lift wing area. Corner out in 12.00 inches

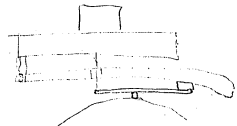






Paper packages about the size of a cigarette
Patrons to make —

Water tight — they are running over a cylinder in a set spring and rung over hinge, then [illegible] the cheap in gold moved vertical [illegible] in [illegible]



Iron in aluminum powder
Centrifuge powder on surface near
also powder —
Dally powder or oxide, Hematite
Then what [illegible] use [illegible]
in Nitrolim or other things —
also Na_2O_4, K_2O_4 —

Dr. G. ~~Army~~ ~~Sept 2nd~~ Proctor July 4, see
~~Army Schools~~ ~~Dr. Cooper~~

Separate Mention by Salmonts
powder than 200 mesh –
Try Zinc product separate also
separately –
add bottle Mercell ~~to Lanston Mell~~

add to Hot mordant vapors and
decomposed sulphides –
MnS, KS, NaS, ~~as~~ SbS.

powder Mercury 200 mesh
Look Formaldehyde No –

see if Cellulind dies – Xanthate N.Y.

Makes Centrifuge for
Record 15000 –

Buy Centrifuge for dolls
for Small Tools –

Find out where Brown
Bros 6 all Hour co
with view buying them

to get natural lake pictures
as persons appear on the stage
+ be shown in ~~[illegible]~~ 3 or 4 weeks
to get animals birds in grass etc –
If other gives the illusion of
blue sky partial or no improvement
in the art of Kodak taken very
to run to the Volumes of sound
get the distance –

Lamden

~~Send for sample 7 oz Twill~~
~~+ army Khaki~~

put Vistone mixture (add Bromo)
Mixture – group of Chemical
~~[illegible]~~ than Cover plates
~~pans~~ –

dep [illegible] of [illegible]
[illegible] — [illegible]
then [illegible] — see of
[illegible] on [illegible]

Try Sulfite in Conta
$ZnCl_2$ do
Same therapy —

Mix with Vaseline
ZnO, other oxides
& dep on glass tube
see how shrunk —

Try mixture of Calcin
& Vaseline & encap by
[illegible]

Process Vaseline in
tube with $CuSO_4$
$ZnCl_2$ etc —

Dally try burn pellet — [illegible] heine
Shakes Comets Lunie Kat [illegible] quant
dette Nobel Lusers [illegible]
Various capsules — Aspirin —
Sulfite paper

Dep Sulfite paper in mention

Try formaldehyde on Gelatin

Flow film dope on glass when
set pour mercury off [illegible] at low
temp, dilute Vaseline on glass
a pour mercury,

Fed off fix [illegible] hand again mercury
therapy [illegible] —

Gun — [illegible] with [illegible]
Glycerosol, thymol,
[illegible] from [illegible]
Morphine, Heroin, I test [illegible]
in LLD, 2 best known [illegible]
on royalty [illegible] with quarantined
[illegible], also those [illegible]
people [illegible] not [illegible]
[illegible] — Pooley, [illegible]
Geo [illegible]
Kipling — [illegible] —

gun through the [illegible] 2 turn
in [illegible] — see what reason
do with [illegible] — these were
[illegible] coat with rubber or
[illegible] —

Mix metallic oil with Vaseline
see if any dries they put on
glass slab & drop by ammonia
or water after drying with
ammonia water &c.

find which was best and
Quote 3 ounces of lake
Chrome Chromate lead 60 c.

see John Gill about Barium
not recorded

Mix Silicate Soda with
Vaseline — also put Sulph.
Silicate Soda Alone & C.62
& also with fat Mabel,
dry on plate —

See if can make chloride oil
strong to mix with Vaseline

Try mixing Oleine and
with Vaseline, then Oleine
oil —

Dissolved

Tell Dally he is fine photos
but so neat about offers
quick answers Wing & Co. Sells.

Try Talc on Wimbar —

Quote Try Ammonia yellow Sulphide lead
Turnysdall Lead & Barium Chlor.

Deposit at Prisons of John Patent in
name of Clark — Select Tiger photo
have it ready — also Tiger photo ready
my arrival Monday! see if Eakins part
of he heard a claim on mounting
shutter also Branchi —
get copy filter photo —

Weber use Thomas or more sensitive
dia on 200 Thread —

Tell Walter Miller he has less work
on 200 & be at to try smaller diameter
diaphm — to get sharpness —

1 ft Positive has .0754 gr
Silver 380 ft 1 oz Silver
about 2 mils per ft —

back up film record by washing
Silvant Sol & mix now Wash - Collect
use several lot gross silvanol

Backing film record by
Oxydol soap powder

Dilute Neat Portland or quick set
for plates

dilute Neat glue

dilute Kaolin — dilute Paraffin Emulsion

use thinner film drops then when
dry and varnish & throw in Zinc which
is spread up. also Color film drops
aniline black or blue

Tell Jura back boundness to
yr Wednesday 7 oz — tell about
film record

ask Efforts if he will send over
5 lbs of raw Nitrocellulose

Dyer Collect Petal & other
flexible Record posts

Together 30 % Earn

Where

Reg. Calle lenses 1/8 more & 1/12 thinner

amp	
156	equivalent to 900 for short lines
164	950
173	1000
182	1050
190	1100
198	1150
206	1200
214	1250
222	1300
230	1350
238	1400

4 dip thin film drops - Reg 200 thin film
Contains device -
put lead piece out on end cut

weight 31 grams

lot 59 900 grms - lose it once
or twice, but probably due to catching
dust pieces - from 29 grms + 3 %
to stand this better thickness weight
of film of specs - leave drop regard
out completely but ground edges 10
times within & outside with water
on calle lens - with weight on
30.800 OK does answer well
lot of capacity lenses in 20 grms
Cones to avoid with safety in 4
dip thin angle calle lens

film dope in which Rico[illegible] was dropped
[illegible] was perfectness. The women
after dropping down 003 thick paint
as good as liquid one of the reporters
could wear running on the roof above,
these are certainly wonderful –

Toy Acetyl-Cellulose
Viscose
Cocoa –
Alabaster
Gelatine formaldehyde
Celluloid Cellulose
Fragrantith
Bakelite Bordo (10 years of [illegible]
adhesive [illegible] flammable
by Cal.,
Rubber dry salvent [illegible]
Schlinks – gutta-Balata

Dyer about selling [illegible] Neg. Bom no gill
on [illegible] involved [illegible]
Dyer Bio people going over
[illegible] 100 cuts – [illegible]
of 1 work – Phosphorus [illegible]
our selling [illegible] Lake 3% of pre-gels
= 1

Mallory [illegible]
why [illegible] [illegible]
Clothing [illegible] which no man ever
why [illegible] [illegible] be as good
[illegible] [illegible] as [illegible] –
[illegible] [illegible]
[illegible] [illegible]
[illegible] [illegible] –
[illegible] on [illegible] –

Lous will sew a waterproof
bag –

Yeadle Poles [illegible] up on no [illegible]
[illegible] [illegible] of [illegible]

Bell Barnes [illegible] [illegible] Dynamite
[illegible] [illegible] [illegible]

bags with Viscose + BS by hand for Samples
box made –

Jet Rogers [illegible] Mixers 3 [illegible]
for Mining Viscose –

Clark Cooper quite [illegible] Cotton

Works Side movement [illegible]
on [illegible] – [illegible] of workers
[illegible] [illegible] –

New application Celluloid to surface cylinder.

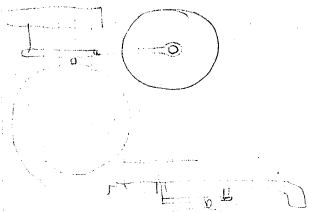
Sulphuric & Solvent to dip Jewelers in Iron soft frame to get greater completeness.

Holland 25% 2 60% or more.

Dyer – have you heard from Reader name, patent or the invention used in Birmingham in reference –

Analytical Volumes – also painted then wash surface or paint with Benzine after BS gone in to carry it in further – also BS 1st then Chemicals also Chemicals alone –

If Sr want of £100, charge ½ then turn upside down 1 hour's charge between – also charge 5 hours turn upside down 5 more then turn again to get consultation



5280

2 | 26400 | 1980

13200

2000 | 39601

20000

19600

18000

1600

9 | 1980 / 220

11

220 / 1100

660 / 1800

2 | 3960000

5 | 1980 / 396

3c

16 | 75 = 4.7

112

16 | 77 = 4.8

45 - 9 | 1980 / 220

3 | 45 / 1.80

15 mile

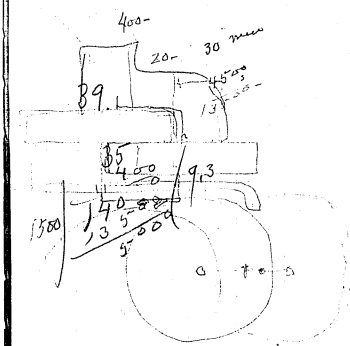
3 | 45 / 1.50

Cement 220 tons 2500

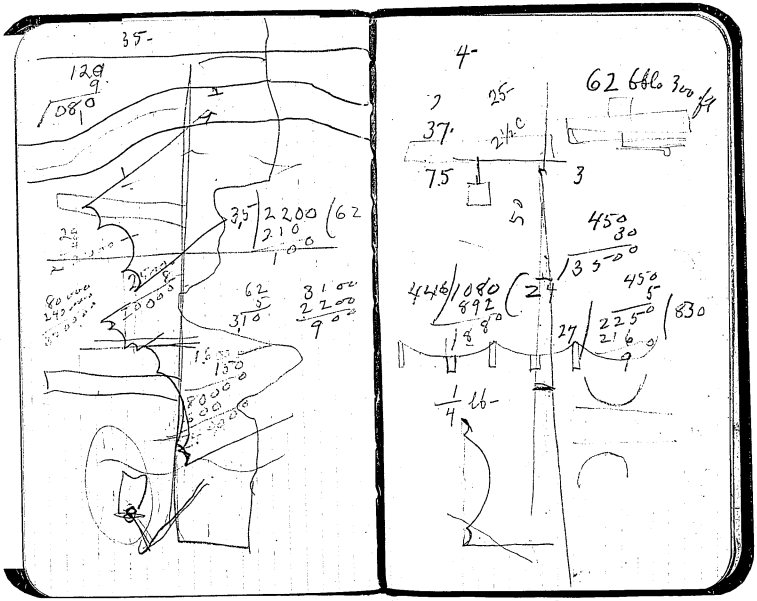
1100 Rock 600

660 Sand 1200

3300



A.C.R.A.
2000133


35-
129
9
1080
35 2200 (62
210
62
5
310
31 00
22 00
9
4-
25
37
24c
75
3
62 bbl 300 ft
450
30
135 00
448 1080 (24
892
18 80
27 225 00 830
216
9
1/4 lb-

1 = sapphire records — Why can we buy these
2 glass balls — Carborundum — S. Nelson
3 If they say we are violating patents Court is
again firm for Company, the patents have
we
4 Business machine —
5, Formula Sapphire by outsiders
6 Letters sent by Webster to people
7 = all moulds now new parades hard
about old moulds —
8 = Stombo changes on machine
9 If we have made 100 mm on machine
If they put off they claim how
much would it be —
10 Can we buy sapphire balls — No
11 Can we sell to dealers by order
Court we want formula sapphire
They will have to buy them elsewhere
Can we say this "must formula
you have to sell to dealers or we
charge $20 00 —

Can we Carborundum

500 hour

$$2240 \overline{)600000} \quad 750000 \quad 800 \quad 320$$

$$6 \overline{)600000} \quad 6 \quad 30000 \quad 5$$

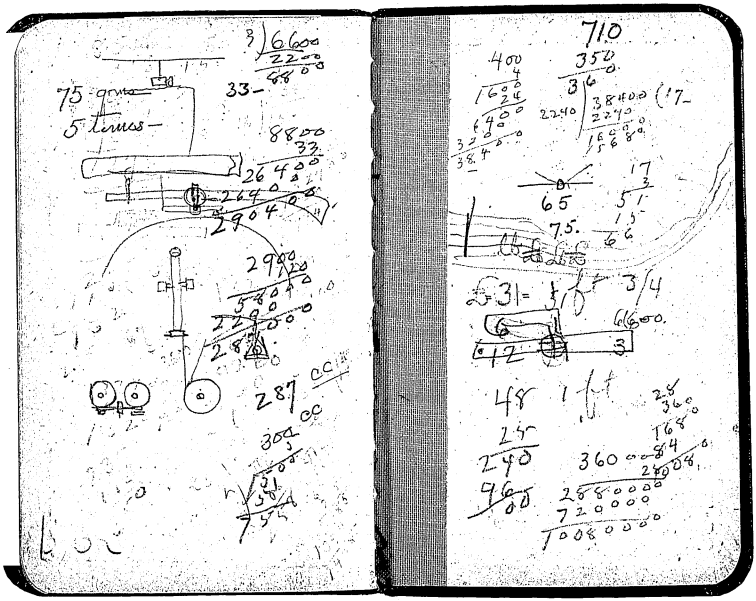
$$30000 \quad 60$$

150 —
96
24

24 million
4000
96000
200 000

$4 per

+10
239
249
150
43


75 grms
5 times
33
88 00
33
264 00
264 00
2904 00
2900
120
580
2200
2880
287 00
300
31
710
400
350
316
38400
2240
2270
1680
1568
384
17
65
51
75
66
31
3/4
6
12
3
48
1 ft
24
240
96 00
360
168
2880000
720000
1008000

Notebook, PN-07-09-15

This pocket notebook contains dated entries from September and October 1907. It was used by Edison for notes and lists regarding experimental work and other tasks to be performed at the laboratory. Among the experiments listed or described are many dealing with alkaline storage batteries and phonographs. Other entries pertain to electromotographs, rectifiers, telephones, telegraphs, and thermocouples. Also included is a suggestion about using magnetic markers on films and records to start moving pictures and sounds simultaneously on the kinetophone. Among the employees mentioned in relation to individual experiments are Ralph Arbogast, Thomas D. Greenley, Otto Groethe, Walter E. Holland, and Albert F. Wurth. The non-experimental entries include reminders about patents, popular music, and product names, along with notations regarding the authorized biography of Edison by Thomas C. Martin, Frank L. Dyer, and William H. Meadowcroft. The pages are unnumbered. Approximately 100 pages have been used.

PN-07-09-15

Thomas A Edison

Orange N.J.

If lost please return

TAE

3 00 sec – 1000 . 003

Wires 59/000 1 Rest 18/54

20 Rest 1" long wires
1000 5"
1000 4 ft long
10000

1= Make the different Ni plated strips arrange in circle big jar + plate simultaneously from Iron Cathode Etc

2 Freshly dry of Fried Al_2O_3 on small Ni cylinder To strip flake – also magnesium Cathode —

3 Dr 1 sec of Magnesium hydrox fresh will precip Al_2O_3 out KOH, Hot.

4 Dr 1 sec of HCl will throw down Al_2O_3 from KOH, boil off HCl

5 Dr 1 sec of Monohydrate Na precips Al_2O_3 from KOH Completely – Formate K ditto,

6 Dr 1 Li_2CO_3 decomposes salts of NH4 Ca Mg Al Fe Cu + Ag
Least Sol Li Sulfate Phos Na + Li
Phos Li + Fluoride Li + Silica —

7 Leave Off soak 2 oz NO_2 green in 4% KOH, 10 min in metal Can in 15% NaOH, 1 hour dry and temp & give to Solution —

8 See if Al_2O_3 from Sulphate or other Al salt is deposited on Nickel so it will not in Rectifier

9 = Find in Paris Exposition boxes - Quad act - & Centro Perforator

10 For Business Plating Try 12" surface of Cathode & 1/4 in Anode in Cu sulphate or other Copper salts, & use of Current so uniform it will Rectify —

11 Group 6% diOl 6% B_2Na, 21% KOH,

12 = Drop the 6 Cells with non & Ni strips with 6 Ni linker Ni strips

13. Order or find some Tellurium

14 Try acetate Hg in Eng

15 John Oth Roll out some CP
Nickel 005 have Rogers
perforate + flat 3" tubes made

16 = See that Zornhoff gets his
tubes –

17 Dally flash a municipal
filament in oil + put in.
Lamp.

18 Grzenley plate some Tubes
twice as thick with Ni as now

19

Try this after
Charging that
with piece imbedded
iron rod to act of
local-atum.

20 Holland Takopa Chgd Tube put in piece impregnated charcoal which has surface sheen removed by acid - put in KOH, hot 4 hrs of any Current, ditto with 1% K_2CO_3 -

21 = Group 21% KOH, 10 grms Li Chlorg
ditto 15 NaOH " "

22 = Ditto 21% Sulph and Carb Li
15% Na Cl " "

23 Dr Try Sulphate LiOH in 21% H remove Sulphate by BaOH, see how free of BaOH can get it ditto SO4.

24 Dr 4 oz of purified Gran Sulphate KOH of much FeS dissolved in LiOH recrystallized it —

281
40
1700 | 125 | 1124 | 8.
1000
124

110 watts

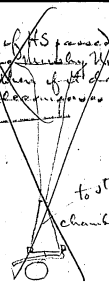
125 "

40.
20
80

225
125
125
40
225
281

25 Dr G sec of HS passed into Kott Continuous Chemistry Wotb. Combines at [illegible] of pt d n.s.o sec of LOH & examines it —

26 Walke



Ditto - measures dia diaphm demonstr lecture —
too much heat in preservat chamber

27 John Ott Make Wheelspoke on big Eng dia - best
5/000 10 20 30 - Mica
dia —

28 - Dr G sec of Vulcanized hard Rubber as sol in Terpineol

24-
20-
4 4 6
2 8 8
4 8 0 0
4 0 8 8 1
1 4 4
6 1 4

29 John Ott, Mr. Ott's new Repeating Dynamo for Telephone —

30 See Hooper about the Tubes that have been processed 50 times — Have been assembled with Glycerine Rubber mono —

31 - Lower Ott & Glass go up & examine over Rare Metals found Ta — also get 10 grms Each rare metal & make a Hol's solution of nitrate & put in a group cells &c colored tube & its cells.

32 Fred Ott order up Mg Hydride & Magnesium, also Nat., Kal & other chemicals Metals & salts —

33 Dr Ly see if Ni OH sol'n obtg LiOH

34 Halford take a good tube out & put it against a bad tube see if get improvement.

35 - Greenley & Walling let me know when get next British flakes as I want to pick it in 3 lots, each of which is more crumpled than the other is

36 - Set up 5 flat pocket Reg graphite new 2 grms LiOH & each c.c.c.

37 John about my 1000 Storage Cells —

38 = Walker work on Reproducer & put in both Ether - alcohol see if improve Equipment
Ditto the Methyl & get from dental most powerful

39 - Dr Ly Holland see if Perox Manganese deposited on Ni strip in alkaline sol. also Cobalt in solution Cobalt $2O_3$ is most possibly the peroxide may harm — be peroxide & see effect LiOH on these —

40 - Hooper set up some 33 % dry cands with 30% LiOH & run cold —

41 - group Reg graphite mix in tubes — 3 grms LiOH Each cell — 1/2 lb 1 lb 3 lb —

42 - Fred Ott make Carb Lithia Sing cylinder wet with LiOH —

43 - group $CO(OH)_2$ + 2 LiOH see if its active —

44 Groups with unplated grid dipped acid washed

45 In Al Rigs or see if addition of Carbonate Charring Current.

46 John Take Bell Telephone Short on a [illegible] Alum Dia 200 [illegible] Current with heating tube So can put cylinder B. Carb Na

47 Try lead Electrode spongy surface, so Carb Pb be formed + Al lead flat so K wont crumble away

Try our new pocket, also Ni pb
Try Cu Sb finely div surface
B. nitro — Ag coat hydroxide

48 Ferromanganese — In all cases of def metals use pointed plates Reduced to metals so acts form Carbonate or phosphates — ~~with~~ color probably great ~~[illegible]~~ large surface Al pb so K cant define or long flat

49 John Make Crumpy Machine for Crumpy flake —

50 = Edison Puff flake — Make 1/2 of whole lot regular — The other 1/2 Crumpy — notice dif in weights

51 = Rig up artificial line = 10 ohms — with capacity so nearly wipes out talking on telephone — metallic ck then insert 10 at telephone across — having very small leakages = Try Al. Pb — Wet paper Condenser —

52 = Dyer - patent - Repeater for Telegraph use / longer dynamo and battery

53 = See if Little Ether works Emg will act in endurance

54 = Fred Off, make dia 1/100 1/2 - then 5 10 + 20/in also thin + weigh wheat get from Wakefield

55 = Reduce or recover that Light salmon Chile heated thin removing mix with alcohol by ether + if Tube hot clean Zinc in few drops HCl + give O.K.

56 = 2 CP nickel strips 21% KOH, Heat see what at plates put KOH alone + measure it —

57 - See about old prod of it has not had KOH put in 2 grams or Reverse it half of mother further Can be doubled take it apart & reduce by degrees KOH + measure it —

58 See if Meigneux will act on Realgar in alkali — also where work KOH used with Arsenic in it.

59 = Fred Off arrange glass tubes to see the dissolving of green & flake diff positions & gelatin with plain & Green-labeled flake —

60 = John Off Make 1/2 doz cells CP nickel strips no non-all way up thin rubber + easily removable Metal Cans — Sheet or strips of zinc —

61 = Berger B off 3 oz of Reg Fe mix in 33% of Nickel dust with cover on for 4 hours — Use 200 cc 33% — then Remove + put in metal cell with double strips + put in Hot test 24 hours Dr G Test.

62 = put 33% in Reg Can double strips 24 hours hot see what comes out

63 = Boil 2 oz. No 2 green 5 hours
33% + put in 2 strip acel 24
hours heat test.

64 = get V + anodes + with one acce or more
see if emg action accelerates —

65 Berge Tabs 30 grams No 2 green
heat to 175 for 5 hours
in 21% 175 cc — containing
5 grams Nickel Calcium chloride
dissolved in KOH.

66 - Berge take 3 old tubes from
33% H Cond in Sugar with
KOH. 60 chrg dense 5%
KOH + 10% Sugar Reversal hours
then Cond in water get
Sugar out Sure + set up
with regul chgd 75 — 21% —

67 Hallwachs try 1.0 gr Li_2CO_3
in old tubes 6 chrg
leaks —

68 2 grams Ni to Can from Ray
2 " Fe to Can "

69 = Fe to KOH Calcium Tungsten
of Al_2O_3 by chg Sol with
Manganous ~~by in open vessel~~
it Carries down Al_2O_3 possibly
must precip $MnSO_4$ + O
it ~~requires~~ SO_4 by $BaCO_3$
Walls

70 See how in ~~Permanganate~~
out 21% ~~electrolyte~~

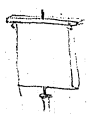
71 = To prove that there is
a species of Iron electrogen by
Cementation make a lot of
Iron alloy Kinds put in
series + enclose in Ray
up to put in Ray by chg ckt
& kept in months,

see if there are currents in metal at junction of metal & liquids
Value therefore chem action for instance in Zinc having or of Elements -

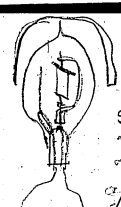
Junction
Cathode
see of Current Generating

Pure Boric acid in Water washed very liquor of NaOH do is the worst Conductor known -

Wurth - Method stimulation of electricity or heat till nearly all action off - power -



Drill



for Chemistry
Small quantity
make use
Long tubes 50 cp
arranged with
chimney arrangement
Burner to heat
& to pass H_2

Dr Q to deliver by parcel post
Roll before & after 72 hours
Electrolyte with Pt strips -

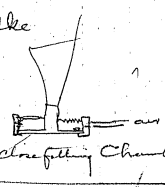
Send Gold Schmidt Thermit Co - send 1 g = 5 & price per lb Mn & Cr 99% CP -

Lonsett heat carried
horses 1 oz No 2 powder
with K Pr. Carb
10 grains Iodide K 1/10
175 grains N
Acetic mean other hot
10 grains 1A
possibly in a day or two
N will throw down mercury Iodide
of Sodium make sure of it

Dutch patent 147 313 Nov 10 1874

Al Refr by Bi Carb
Ammon Al2 O3 =
mixed which wont
the Cas with K
by Borax accelerates
Borate ammon

Wolke



Close fitting Chamber -

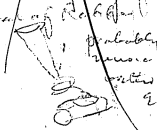
patent when Perfected
Repeater for Coloring - using
Voice field Ignition 1892 Jan 26

Peltier effect peculiar Thermo couples
dont expand more when current
is sent in one direction than
the other

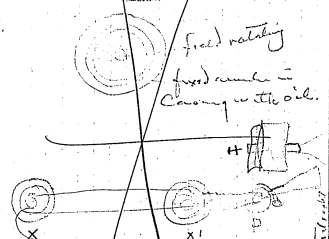
pure glass - buy for each sale
bow it size it gilt
charges Cheaply

Some phenomena observed Comm from a metal Electrode in Hg cathode is amalgamated or another Electrode like Nickel, which is not amalgamated, bottle dropping in Hg — should have off rays according to discharge CA also may be Thermionic effect

Rubber funnel this lowers high notes & brings out others also out, also Hg Reg funnel & separation of Rich & Poor



for high voltage Dynamos Commutator the field instead of armature then no trouble with brushes even with 60,000 Volts



for two wells sharing gas

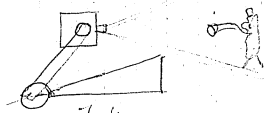
X X' Synchronous Signals & Motor

P phone H Kinetograph

for Taking Sound & visually

Reproduce with Compressed air attachment & Dictaphone

Magnetic Microphone



Tubing

Mr flake - 91

1st Reduce pulled strips by H.

2 " " " & put back

in $CuNH_4$ liquid &

3rd Connect to Cathode in KOH

& reduce by Current. then

put back in $CuNH_4$ sol

4th Reduce by Current, cat

with H_2S & then KOH, wash

dry -

5 Reduce in new H_2SO_4 sol

& wash then KOH & wash

Try Smoke ring box with

Ether + O ft away flame -

also - a flame + project

tetrachloride Carbon rings

also glass plate wet

with Olive oil Naphthalene, +

project Ammonia rings

Walke test old alcohol +

new machine high

Recall: same reason

3 to 1 Sea of London

test slides with fluorescin

in Conc printed scale

mag [big] + then big

lens, X heat + Red

to get new theorem

Narrow glass cell
In fall on outside
see with Hg amalgam
at gas changed
where chemical reaction
takes place inside the
cell

Shield the glass by a
piece of [illegible] transparent
then deposit metal
[illegible]
[illegible] the metal
Metallic cell not or
Cannot [illegible]
Thickness of the plating
Separate the plating
plate from the glass

July 1
Clean some 73 with HCl,
wash H2O [illegible] alcohol
dette by Current in KOH,
wash H2O - then alcohol.

See if 1 cell will
plate Hg out on strip
Ni - cold or warm -

Holland Acid Ferrotypy on
1761-2-3 Rum Cold series -

See Hooper 2459 To 2493

Arrange machine dump
green Grump olump flake Tank
only use 20 To 80 green -
Make a test & test tube -
18 green 4.5 flake then -
80 to 20,
See number perforations
so that if green is 10/1000
it will fit a hole for every
layer if not use 6 & 24
layers 13/1000 layer green

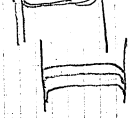
80 to 20 green 10 flake ink

Try coated between one piece flake & the other floating – also on Sheets use 1 cell the screen screen –

Wet end plunger also

Try 9 to 1 also 95 to 5,

also then 20 30 & 10 of yet screen –



See if makes any dif which end goes up on grid

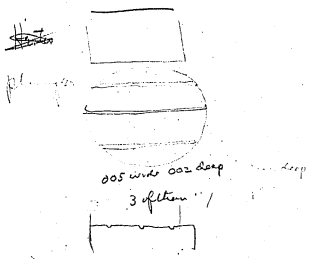
Pack a tube of the resin how far it chokes to green also when plunged wet & as green soaked with 4 5 7 1 10 –

Dyes – Warn Helm & Prodigal not so assiling abt Dec 1 Cleaned – 540

Try number groups with 10% of solid sulf in wet green the 40 – some to entirely dissolve using H_2O to dissolve out & other to leave the base & abstract replaced by KOH, leaving porous material – all to get porosity to raise economically & effective output

See Rogers abt changing from grid

~~see if some stiff dough~~
Ni Reg was dried high
heat



Look at a filled tube see if
flake closer nice or closer
than the other —

Use needle & open halves on
one tube —

Gives possible swelling of the
longitudinal in due to oil soak
on the flake hence 1/2 the flakes
(12) 1/2 the surface wound diminish
swelling —

Lowes oil – Sul Copper
175 cc Roff with 7 grams
dif sub – warm 17.6 flakes
see Wax mixed well & wound
found double ~~soak~~ also Copper

Webber try heat & [illegible]
also —

Uneven or side dumping of
green wound is very bad.
Try when get good groups
of Chu mix 2.002 by 2.0250
dumping green & flake as
well —

~~Range Dry Soil Kitch Linen~~
~~also Sheets Linen white wash~~
~~[illegible] Handkerchiefs~~
~~also Dinner Cloths~~
~~also Silk [illegible]~~
~~Silk [illegible]~~

Dry 16 X 4 ft Thus 80 + 20
" 36 X 10 ft abt 80 + 20
24 X 7 in CP Nickel grit + wire
all rubber 6 mighty
" 6 " " Cold
46/360 ft

5% KCl	33%	5% KCl -	2½% KOH
10	"		2 gm 1.054
15		10	
20	"	15	
25	"	20	—
30	"	25	
35	"	30	—
		35	

~~Diff of 7 - with + w chamd~~
~~wire~~

Dec 10 yr
Graham Lawyer who was
with Hix - see abt his Contract
Get proper abstract Cover
Conversation also our
judgement

See Haigh Coulter Engal
Cylder Engine under
Engineer

Dry breathing off pump
equivalent to 1 1/16 out of line

No 2 gasm soak in hot
Cond Sol Na Sulfate
neutral - take out +
dry then wash off outside
with + dry + use

OVS

Sec of mars / 29 @ 33°/o
tubes have been washed
plating dissolved off —

Compress 300 ohms
Small cake dried 1/2
W not felt dried too
next side of it becomes
transparent & Reproduces
OK = also moist —

Charge group No with potassium
[illegible] sec of chg —
Then assemble and [illegible]
& put in KOH & disconnect [illegible]
Idea being to grow
[illegible]
The NiO [illegible]

Clean inside tubes mechanically
make group / scour before making
act on tubes with acid —

Action 1/2 - 94 % chemically or 88 % or 71 % electrically
blacken it by H2O2 — Dry & try —

try some 40% hot on above blackened
flake. —

John make ~~[illegible]~~ ~~[illegible]~~ spiral in

Make tube only lower end closed —
put plug & wire on top pressed down
with 1/2 lb immersed in KOH.
see rise — ~~[illegible]~~

M sec. of comp f. to this — to dent

group 1/3 up 1 1/2 lb next 3/rd
2 lbs next — 3 lbs —
also reverse this —

Try beveled end packing
too. 8/1000 off ~~[illegible]~~

Oxidize some flake & Reduce in H —

group put on & dry Cold 1/2 mts 45 min then take out & dry with KOH in — then put Stick + Rem Reg —

This style plunger

Make group: North S. & West by turning plunger 245 deg + Reg load also layer load —

group green - the red one & print NaOH 245/1000 with idea of with drawl

Dilute 70% soaked 33% dried & then put in 21

Holland Charge group at 100 deg 7 1st Ratio 4500

Print 70% with Little Hel. So 100 only left in the dry — make group 245 [illegible]

dilute KOH.

group boiled in 21% — KOH.
" " 21% KOH 3 gms LiOH.

Oxidize some flake & then reduce in by Hydrogen 245 plunger —

press green & flake in Cake mould, see how green sticks — also break pieces & see if KOH separates (which) & the H flake —

group 287 - 1st soak water
then KOH 21 - Chromy & Rinse

group 1042 - ~~X~~ 4 fe 287 -

D4 - ~~NaOH~~ -
D4W ~~NaO~~ NaOH

Mixture 708 & 1040
(Fe) Thoroughly dried
NaOH - 2 of 708
1 of 1040 -

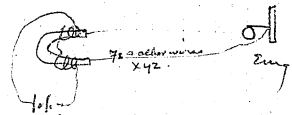
group - use saturated KOH
water - Reverse hot 24 hours
soak out in water, then KOH,
Till no more KOH, then
put in 21% KOH + Rinse -

flake Coated by reduction
Ruthenium - Done
Copper
Silver
Platinum - Done
Palladium
Osmium
Ruthenium
Arsenic - Done
Antimony
Lead -
Sulphur -
Gold -
Mercury
Thallium -
Tellurium
Selenium
Phosphorus

Cuyaga Falls
Ravenna
Warren Ohio
to Oleanon Pa on the line -
then to Mercer Pa
then to Franklin Pa
then to Tionesta Pa
then to Warren Pa —

H a Galt
general manager
Columbia Chemical Co
Barberton Ohio

X42

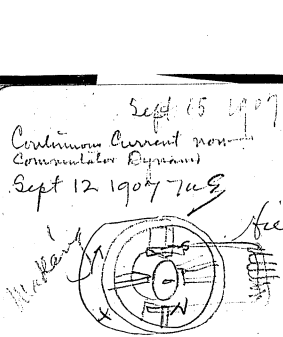


North Warren
keep on this side creek - to
Russell
Hickory Cross bridge
Fentonville
Youngsburg

Sept 15 1907

Continuous Current non-
Commutator Dynamo

Sept 12 1907 Ta G



Armature fixed X rotate
plane cross poles Coated
Shock with Copper

Magnetic Commutator

Try current non rotating
by Vanadate K in KOH

tube with finely divided Ni
of flake + 27% KOH, 3 gms LiOH
Reformate action –

LiOH. 2 gms 21% KOH + following

2 gms Zirconate K
2 " KCP,
2 " ZnOH.
2 " Arsbiocacid
2 " Formaldehyde
2 Sugar
2 Chloral
2 Amyl Alcohol
2 Methane
2 Jodthalic acid
2 " of all more needed dissol in KOH,
200 milg Vanadate K
200 " Tungstic
200 " Molybdic
200 Antimonic
200 Tellurate K
2 gms "
2 " Borax
1 " Magnesium OH,
1 " Ledox
LiOH KOH sol saturated with Uranium KOH,
1 gm ammonia
20 ml platinum Ammonia base Hydroxide
1 gm Cobalt Ammonia "

ask Johnny what HOD
for life Dis in June about
as for

Oxd on plate with acid to clean my iron off then OXdize & Reduce No 1 W

Sulphurize No 1 plate & then redu[illegible] No 4 S mg

Daily to oxidize No more strong than Peacock & reduce

Glashan - about many fragments get rapid - also calloxen -

Copper deadwood easy in 10 ~~CC~~ NHCl at 80 cent, Not NH4Cl - but of Dubray print in dip Cu

Roberts Chemical Co
Niagara Falls make
Caustic Potash -
Reputed burnt down

Try two Emg in Mycliphe & in series - see if works

Try for Emg Chlo Forrey Co

Ideas

plate iron No 9 Co in powerful pieces - see if magnetic or have self Chamudeyl

Try Making point paraffine & the dead[illegible] under powerful Dr[illegible]

Ideas

[illegible]

[illegible]

Subject Metallic Uranium to X ray — outside & also on unexposed plate inside & then Coal pot [illegible]

Pt — [illegible] Residual [illegible] N O
I Cl H. Cy [illegible]
all at once

Boil some [illegible] grass in LiOH, 3%
ditto 10% KOH 3 grms [illegible]

Try group Oxyz [illegible] [illegible] peacock 4 cases
10 of 24 — LiOH 4 Cocci

also 7 of 24 of this flake
also 10 of 24 25% KOH
2 LiOH

No 2 grass with glucose
[illegible] worked till day —
21 4 21 with LiOH, Soak out,

group - Saturated LiOH,
2 grms ~~[illegible]~~ LiCl
5 grms LiCl —
10 " LiCl
ditto 21% KOH, 10 grms LiCl
" 5 "
" 2 "
" 10 "
" Saturated LiCl —

Try Bichromate & SO_4 [illegible] short to blue copper. Try Bichromate & free HCl —

Try $CuSO_4$ boiling
also " [illegible]
also Ferric Sulphate
Manganese Sulphate

~~[illegible]~~

Oxalate strips very slowly
then [illegible] CuO in sand
the NO dont dissolve —

~~Acc of black stain [illegible]
anode from KOH
also $NaOH$, a soap
[illegible] or [illegible] with
Cans Nitry —~~

~~Besnerling [illegible] gross~~

~~Oxalate [illegible] Sour of
tubes of Cant Try strips~~

Precip in pores NO_2 gases
12 ½ of Sulphate Co in all Country

Ni	S	made
Cd	"	made
Ce		"
Mg		"
Co		"
Fe		"
Hg	S	"
Ag	S	"
Thorium		"
Ur		— made
Lanthanum		
Yttrium		
Didymium		made

for Calcitic Effects rain Crop.

~~Put Calcium Carbide in Bisulfate Carbon acc of acetin in [illegible] to Diamond (black)~~

Select one Cuttle flake big dec
Dolphin in "C8" –

Tantalum is some harder than
Aluminum or Rodolfer
Try on bottom edge if it
has some effect on Tal
Try Mabre Acid –

Polish gram well some K
phenol graph profile of
or make groups –

Use phenol profile on
reach two thread round
or try water not too
temp – put on hot 2
seed not to grow +
W Muller –

Holland find of CUO
Reg or Electrolytic is no
a Grinder Dont Chr dust

Some Cell hinge some
pockets pocked 2 lb Tool
Cut not prevented
Rice not fast forced in Holland
Run

Group with most also dried
on first plates seven grp
good flake +

Ale Wenth Try plating
in plated gold
With new flake try 3 lb
2½ 2 lb group Reg 21+
21+ Lott –

Record on the phone
Thru a telephone, Ag chloride
use double-face immersion
+ Emq — Dry sensitive

Make Reel for
with large Emq
Diagram Contacts to
Carry 50 amp
Motor phone —

Also Reed Vibrator
with Mag +
Good Contacts to
50 amp Reed
Lined to Dynamo

group — vin brown 10 of 24
green brown
5 of 12 green 2 lb cal or lead
also 4 of 12 green —
green thru 30 mesh —

Make strong Syrup of
21%, KOH. + phosphorus grafter
spread on 504 — sleight
Excess KOH + boil —
also perhaps NaCl Red & by H.

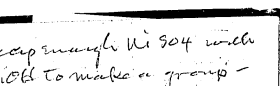
Dry powder HS thru
our 21% also 10%
KOH, also NaOH. 10%

Make group with 10
Mg flake from NaCl —

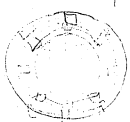
Daily Reduce Oxalate by H
at lowest heat use the powder
10 to 24 also Nitrate —

Recap enough Ni 504 wire
dials to make a group –

Make Copper Cylinder around
Core of a Sounder or
Magnet – also long



Longer pole piece –



Bachman make a ring
with permanent magnets on it

~~ask for copper for~~
~~Uncl neg plates for~~
~~Hall and to Leal~~

~~Pack cylinder loosely 1 tube~~
~~Reg No. mag – 21%~~
~~one " 33~~
~~one " 21 2 gm bag~~
~~" 27 "~~
~~one 33~~

~~New long tube machine~~
~~Reg group 23 1/2% Kell~~
~~1 2 4 6 8 10 12~~
~~group 10%~~ ~~Group Hal~~
~~" Cal~~
~~Ditto 21%~~
~~Ditto 18%~~ ~~Tach~~
~~Ditto 30%~~

[illegible] D some
[illegible] which
[illegible] finely [illegible] nuclei
21 & 21/2 [illegible] KOH groups
thru 2P

[illegible]
of [illegible]
[illegible]

[illegible] nucleo
[illegible]
[illegible]
[illegible]
or [illegible]

Try Tentative as above
in KOH to get it ends
Solution —

Change [illegible] finely dissolving get
[illegible]

generally Chot effect —
20 mech [illegible] (1:) 40/000
[illegible]
[illegible] in Cyl [illegible]
[illegible] —

form $MgCl_2$ by fusion of Mg Cl2
in an [illegible] fusible [illegible] Salt solution
then dissolve out by Hypo —

Experiment further with
Carb Na. K — screen thin
~~[illegible]~~ 15 mesh or 20 ends
the Carb — Try cold also
warm wash & reduce
by H also & quite & then
reduce by H ! Carb Ni in Sol
in [illegible]

Try Phosphate Sol.

~~Prussiate~~
arsenite Na –
Arsenate
polysulphide Na
Ferrocyanide – K
KCy not in specimen

Na is reduced by H in presence of KOH or salts which case be deposited out –

Anhydrous Carb Sod made by heating $NaCl_2$ with Carb Ammonium at 150 C in sealed tube 14 hours
but better by decomp $NaCl_2$ with acid Carb Sodium supersaturated with CO_2 at 140 Cent in a strong Vessel closed with a Cork thru which the CO_2 escapes slowly

K Sulphate
Na Hyposulphite – not working fluid

Dry Hypochlorite & Acetate Na or K
to BP gives primary Alcohol

Hypophosphite Na or K –

Formaldehyde – H2O gives pure
Methyl Alcohol

Carbide KOH –

Dry prepp 7/07 1/2 week
filtered dried Kow in
with general flakes
also wheel X.OH.

Also fetch old Reg
green

Ra make Gelatly
707 1/2 w followed
dried low heat -
Sealed up -

Boil some 'ROR in 5% KOH
for few minutes wash
well & dry low heat,
+ put in Gillio +
Cell - before & after
manipulation

Hooper to run a
drying Curve when
not of a [illegible] 100 2470
Tube going - dello 2471
on 5531 #2 2472

Purifying the Colloid and
of ROH by shaking with
Petroleum Benzol in presence
of air - the colloid does not
like Petroleum on Top

Copper reduced to a mirror
on glass by [illegible]
hydrogen -

New machine for Tube
groups changed 1/4 rate -
Hot & Cold -
with + without Heat -
Soaked 48 hours also + then
Chged 1/4 rate -
also chged 1/4 rate drying to
75% + Change [illegible]
1/4 rate + Upon [illegible] rate
Reg -

Iron Cupro-oxidize (then put
some collodion $Ni(OH)_2$ on it
& Reduce by H — Reg Mx

~~Mix some oxidized flake~~
~~with Nickel (only reduce.)~~

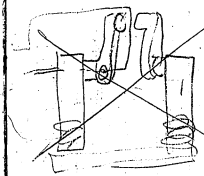
Mix some unoxidized flake
with Collodion $Ni(OH)_2$
Slir & dry — then oxidize
& reduce by H —

Paint nickel 72 cupro
with ~~nickel~~ Conc Nitrate
Nickel - oxidize & Red by
H — c

Ditto group tubes —

Try some anhydrous
$Ni(OH)_2$ in OX tube —
5 grms $Ni(OH)_2$ 2 1 o/a

Boil group Mercuric
Chloride —



CC Degum
Buchner to
1 mole — 60 g/107

Increase CHCl nimbal Alcohol
Unu H_2O 2½ pt Alcohol to 1 of Hg

Green boiled KI —
" " Oxalate K —

XYZ =

Hard Rubber Comp like Anderson's
dividing a liquid - diaphr. vibrator of
use KOH or H_2SO_4

Boil Reg Zn in LiOH.
3 gms LiOH in 210 cc
dilt's Conc LiOH -

Tubes gone bad by aluminum
boil in Ba.OH. out
in glass tube drawn
out at end to keep
CO_2 out -

Hydrochlorides of phenyl-hydrazine
sublimes on heating - Reduces Metals

To reduce the flash Cu
Oxide (precipt) heat in
water with NaCl - form
ChlPb + NaO - dilute
Ag_2O in water 1 pt - 3000
Platinum Ox in water -

Strong KOH saturated
with Lead Ox on cooling
gives scales -
Chl Na should be reduced to
Ox Na + Chl Pb - then PbCl
boiled out with H_2O -

Only $NaCl_2$ absorb NH_3 form
ammonia Nickel chloride well
this by decomposed in ether
acetone etc - dissolve out NH_4Cl
if H_2O_2 put in -

$MnCl_2$ cyanide & then
Mix with oxide magnesia &
ignite – also try oxidizing &
reduce – Screen out –

Try mixing $MnCl_2$ with
~~Cl~~ MgO reduce low
temp strong time in H_2

Mix $MnCl_2$ with fine dry
peroxide lead & heat gently

Cyanide only outside of $MnCl_2$
Mix with MgO & Dabby
reduce –

Try $MnCl_2$ in hot SO_4 up
to oxidizing point –

Try reducing $MnCl_2$ in
moist Hydrogen low temp

Reduce some Reg flake
with Hydrogen from Zinc
possibly Al is carried
over as hydride

also with Zn & graphite
in KOH to make hydrogen

$MnCl_2$ in Ether with Chromic
acid,

Ethylate / Sodium (Sodium alcohol)
dissolved in Ether – probably
make anhydrous MnO_2
is highly based as powerful
Treat absolute Ethyl with Na metal

Ethylamine precips Ni from salts but unlike NH_4 dont dissolve them in excess, Ethylamine unlike NH_4 ~~also~~ dissolves Aluminum in excess

Formate Na is better reducer than formic acid, it throws down sponges from some solutions -

Try Ni Salts - - powerful reducing agent -

Cyanides of Ni heated in water & vapor decomp give off CO CO_2 NH_4 - leaving the metal & small amount Charcoal -

NH_4Cy Valabilyps undecomposed when heated - possibly of passed over $NiCl_2$ from CHl NH_4 or $NiCy$ -

Ammonio Cobaltocyanide of Nickel $CoCy$ Ni dissolved in NH_4 of slowly evap crystallizes in scales -

Ferrocy Ni recently precip + dis in NH_4 & evap deposits a multitude of very delicate violet needles decomp in air & boiling in water but NH_4 ammonia is probably preserves form -

Better crystalizes out Ni Salts from NH_4 -

Try $HgCy$ saturated with HgO iodform on $NiCl_2$

$HgCy$ Ref - Scales

$HgCy$ & K_2CrO_4 Large laminar

" formate K - scales

" $CaCy_2 S_2$

Ni Carbonyl deposit metal on dry NaCl — dissolve out NaCl.

H_2O_2 added to strong Barytic water precips peroxide Bi in Scales — put chars in Sulphate Ni. etc —

Try NH_4Cl & NH_4 on old pockets after using a Reducing agent to reduce Fe_2 to Ferrous —

Possibly Cuprous Chl in NH_4 would do it — at same time dissolve the Fe_2OH_3

Reducing agts
Hypophosphites K alkaline
Bisulphite K alkaline —
Sugar — glucose —
Hydroxylamine in Alkaline —
Hyposulphite Na Alkaline
Hydrazine in K. also NH_4
Stannous Chloride
Ferrous Chl forms Doub Salt with KCl & other alkali metals also NH_4 — could play use a little HCl to dissolve Fe_2O & then form Double Salt would prevent forming a basic Compound

Sal 3 To 24 pts NH_4Cl in 1 pt ferric Chl would yield double Salt

Use 15 pts NH_4Cl + 5 pts Ferric Chl as solvent

~~Sodium and Sod.~~
Sod ammon added to MonoCarb K
or Na or Sesquicarb Ktly
makes a solution which FeO Hydra
dissolves completely

Copper is dissolved in boiling
Ferric Chl and Carbol
with air — Iron flake

use Sol of Ferric Chl &
Nitrite K — Iron dissolves
Ferric to form Dinitrosulphide
of Iron — Ferrous sulph
not decomp by alkalies

Try Tartaric a in NOH Nitro b
before a after reduction of Fe
Sulphon phthal —

when 1 mol of Fe_2Cl_6 — alcohol
Sol is mixed with 6 mol
Na Ethylate, Sodium Chl is
precip and sol is obtained free of
Chlorine Sol contains only
Ferric Ethylate Sol in
absolute alc free of Chloride
Ether pelt — from & Methyl al
insoluble amount water
precips Fe_2O_3 OH
after 1 can be thrown into
large quantity H_2O &
form sol. which is a mixture
Colloidal also

K with large amount
glycerol probably dis out Fe_2O_3

Perhaps neutral Nickel Chloride
will dis Ferric OX

Tell RA that Chevreul compound ferric oxide is brought to a state where the rapidly boiling and adding it with dilute Potash Water. Thus in Crevices -

Try dissolving Cu from flake by adding to Cupric bicarbonate enough Chl Sodium to saturate it -

Phenylhydrazine Reduces Sol. ads only
Sometimes at Hot water & in all proportion in Al. Ether Benzol & Chloroform -

Reduce the ferric to ferrous & heat with 130 gms water 240 gms NaOH. Thus will dissolve best not advised by Medical Ex.

Diethoxyacetone reduces ag in the cold to a mirror

Make a Cadmium Tube
use unglazed iron use
Cl. Spong & hand frame plunger
20 spring 18 flake -

c pump 1/2 thick 708
Run Cold 5 times 38%
KOH, then ~~sinker~~ poured out & 2% put in & Change once & then Run 5 Cold & put out at end,

perchlor. dissolve ferric hydrox
till it comes knowing a.s.
Remove then try it in the
50 X 20 Nitr precip —

30 pts KOH solid 50 pts water
ferric hydroxide pass chlorine
from black mass Ferrate K.
or dilution Ferrate dissolves
try with 50 X 20 Nitr precip —

Try ferric hydrox in tube with 10 of
24 ferric — 30 solid KOH to 50
water, see if it replaces MnO_2
as depolarizer — it mass in strong
KOH,

See if permanganate K is and
in 30 solid KOH 50 H_2O —

Step 2 tubes from the green
that had run in it
try about 50 H_2O 30 solid KOH.

Dichromate Chrom ox in tube
in 30 solid KOH + 50 H_2O 6z mass
(10) Bichromate K be used in thin concentration
possibly lead ox, CuO_2 —

Tryon 80 X 20 Sulfate K —
also Ferrate K

Glauber Chloride dissolves in
strong KOH, makes a powerful
reducer

$MnCl_2$ absorbs NH3. Then if
heated is reduced to metal

Cocoa has quite a quantity oxide
Mg — Chlorides Iron
Deposits of MgO, wet with
Mn acetate, Nitrate Bismuth
Oxalate Iron, phosphate Mg precip
Mg + MgCl — Cast than fuse possible
mix some iron or phosphate to both
Then could be moulded in
any shape —

Hypophosphite of aniline
insoluble in alcohol

Electrolyte for Photoflash

NH_4 (Conc 90) 57.5 cc

Borax (Crystal) 168 grams

Distilled H_2O 1800 cc

mix dis by boiling — filter

add to solution 20%

pure glycerine —

Andrews

Group Bros bur second

Dup the group well has
K_2O precip in green + dirty
tubes in NH4 + Lodge 1.08 group

also group with NH4
3 grms of alum with
3 from NH4 + 7 NaOH —

Shape — Lead end, tapered
End — 20/000
.003 at Spl to fit mould

Burr out — smaller flakes
grains bigger

Tried all screen fine flake out
roll with NaOH 90% green 10%
fine flake —

drill Reg flake — machine
with 7 Reg —

group bars not ground small
Lessen Oil grant made into
N_2O in Nitric Red Hydrogen

Tartaro combines again with Ferric hydrate
vessel whenever the Tartrate is soluble in
water –

Potassio Ferric Tartrate Sol
Ammonio Ferric Tartrate
by dissolving Ferric hydrate in warm
Tartrate Ammonia, solution 1 pint
of water

Tartrate Mn HK heating KOH2
& Chrom Tartar, results green
and disappears on boiling
Requires only boiling
Potassio Ferric K Tartrate requires
150 C to decompose it

Glycerine (Cold) 3 to 12 Mols 2 Fe
1 to 3 KOH, decomposes Coagulates
by heat, Chlorides or Chlorine
704
1st Group Sulphide 1st + 2nd chgs in 5%
KOH, 3 4 + 5th in Reg 21
dittos with KOH, 1 gram Z
only after 1st + 2nd in 5% –

group 1/2 thick of – in 5% KOH
Reversed in 5% hot for 1/2 hour
then chgd 1 or 2 times in 5%
3 4 + 5 in 21% – also Lead one

group Soaked water added
when just dry enough
ditto 1/2 soaked H_2O
mixed with dry when
the 1/2 is damp

Reg mix. 24 4 fl oz
1/2 lb Stamp – also
lightest stamp used
on Iron particles –

for dissolving mix from 80 x 20

Try 21% KOH, with Copper in
also – Zinc-Min Cr.
Sb Sn PbO, Al_2O_3, Co, Mo, WO,

Turn the 80 x 20 into sulphides
then manipulate,

as NiS is little sol probably for
Regenerating a tube Cond. Sulphide
the Ni & then pound & put in 2 to
Oxdyn it to Sulpfate & combining with
the K to form K_2SO_4 this is probably
sol so Gettin now 2 or 3% sol KOH.
& guess it time —

Try Al metal in KOH see if it reduces
also Na Metal Hg amalg —

Regenerating Tubes Neutrons in
20% KOH & then soak carefully all
the KOH out in big bulk of water
transfer quickly & immerse
in Sulphate Copper — this will
deposit Cu & dissolve nos,
& the copper will come out in
Running & not hurt.

Make some Cuprous
Sulphate & try 80 x 20

Try H_2S on 80 x 20 in water
only — see if Ferric Reduces
& Sulphur deposits.)

KCl form Double Salt with Ferric
ditto Ammonium Chloride Try 80 x 20
decomposes on Evaporation

a Ferric Nitrate does Ferric do Fe
in Nitric a keep cool

Ferric Salts decomposed easily by
heat — Chlorides 80 x 20
in Cold solns —

Our Fe_2O_3 must be colloidal because
when all the KOH washed out it dissolves
out of tube in water, this is many all
Colloids not,

Test wet green with strong Citric a
& dry redness — make green
& put Current on the moment tube
put in KOH,

Try 80 x 20 & Concentrated Ferrocyk
ditto Ferricyk. then wash out
with CP water the non Ferro
is Colloidal & sol water
& should come away from the
Ferrocyk K in green dissolves Prussian Blue
in pure water —

Try Rousseau's alt.
Sol K Hydrosulphide + K Nitrate
mixed & Ferric chloride
added (cold) & filtered -
Blue crystal deposited
Sol H_2O dil + Ether - they extract
Ether as usually as $CaCl$
absorbs H_2O - Organic
unchanged by alk Kat.
Ites compounds by nitrochrom
are unique. They are as nitrite
and nitrum Compounds no
Ds are hydrocarbon

A Double Salt of NiK_3
is obtained by heating $NiCl_2$
with KFHF in a platinum
Crucible - it occurs fine
green plates when heated
in air decomp to green
oxide Ns + KF
Analogous Co Salt Crimson
flakes

305000) 81000000 (2
610000
00000

225
80
305

305000) 84000000 (27.5
610000
2300000
2135000
1650

Group Sulphide from ~~ore~~ ore in weakest acid
whereas Co Ni are not, Ozone
Dry then never been explained

press HS in weak KOH or KOH with 80 x 20
& then ~~[illegible]~~ filter off & add
very weak acetic – get iron out.

Have Gap make 3 or 4 oz
Mo O_3 dis in NH_4 NH_4 NO_3 &
allow to evaporate to dry then
peroxide out, Screen then 20 & make
group –

Try Hydrazine Sulphide
in KOH to reduce
mix from old tube

Test our distilled
H_2O for NH_4

L OH ~~make up new~~
~~iron~~

Watter ~~make~~ group
Ni O ~~made tube~~

get plate for sphebotem
also sheet & plate

Soak Drg ~~80 x 20~~ polysulfide
K – 24 ~~hours~~ –

~~try prep Fe OH + H_2O_2~~
~~see if colitions in KOH,~~

~~group green breaked~~
~~Bichlitter Sbrom for iron~~
~~several hours – H_2O + abs alcohol~~

~~See about buck & flap~~
~~no 2~~

Fred ~~Off~~ Cut open tubes
4 of No 4 —

Group gross wet with
Chl Lithia so it will
have 3% of Chl.
in it to act as lubricant
percolate out all the
Li Chl — before
put in KOH.

Group Carbonate Theory —
Run in 5% KOH
2 grams LiOH. / rim hot
2 Runs on hot bath.
pour out LiOH + put
21% in let it stand
several hours then
Change Sol to 21%
Reg Dep Reg 21% Dep

Try one sol. pure wet first, to displace air
heat, the add acid rec. if you
ie CO_2 [illegible] — None

BaOH to form $BaCO_3$ to take CO_2 from
Nickel in Cd tubes — Then change the
the $BaCO_3$ by Chloride Nitrate
or Succ. of ammonia
When $BaCO_3$ is boiled with
Ammon Chloride to complete
decomp. t. Carb Nit, + BaCl
[from Decation Study in same summer] Sell
Try Bad tubes.

---

1 of CarbK 10 H_2O gives up CO_2 to form
Lime — with more concentrating
Solution the reverse action takes
place KOH takes CO_2 from the
Lime — Thus Explains things

Take one of the tubes which has no
LiOH but in strongest Sol then
21 — percolate KOH but then add
2% Sol KOH, with of 1 grams
LiOH. Run hot change Sol
then do it again — work out the
CO_2 rotation

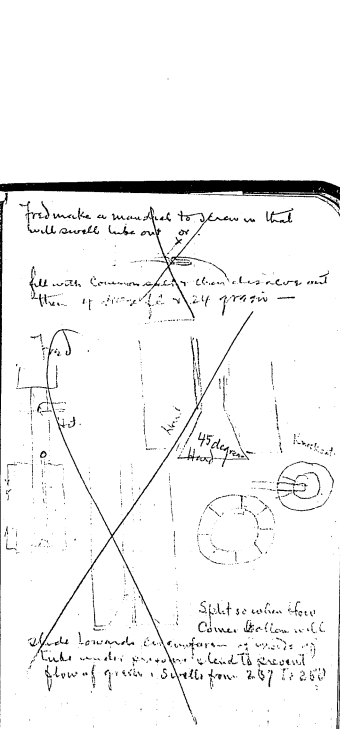
Group - 4 NO2 of 24 gr
Rinse twice then change full
of per oxide out the KOH, then
fill the NO_2 colloid commencing
to dewater out thru the hole then
immediately change in KOH 21%
Soak 10 hours & go ahead
running —

Group green wet with Conc Sol
of NH_4 — Nly 18% —

ditto wet Conc Sol of Chloride make
neutral, must neutral let it take
up all the NH4 & only soak
green in it then dry & use in
tube — then KOH 5% & boil —
then get out Chloride & Run Rey

Group the green of which is
Porous) 2 days in Ammonium
Sulphide washed in water
freely well & then in warm
acetic acid (acetic) finally
Alcohol dried —
21% KOH —

Tried make a manifold to clean in that
will swell tube out



Group - good [illegible], then green
then lamp - [illegible] then g.o lamp
greens fred Cap fro [illegible]

Cement works - white orange in drill & Dump
cochran you have [illegible]

cochy 2 horses 20 [illegible] put in 10 ft 6 [illegible]
No 111 -
Three 6 [illegible] Coal Gouges -
See about profiles [illegible] trap rock
[illegible] paint [illegible] wall
Red paint Exp good weather -

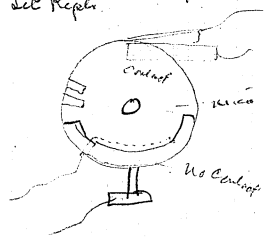
Trio Lovers Recommend
9549 - good Recom -

Neutral phos ammonia basil
for Al Reef -- Na or K salts req
Al should be alloyed with
small proportion of foreign metal
Pb anode shines by larger than
Cathode

Electrolytic Reef

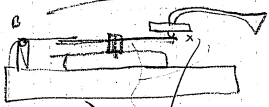
partition of
Carb strontia
Neutral phos [illegible]
Try partition of
Al_2O_3 Hydroxy -

See John on Change State
Let Report



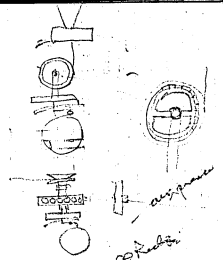
See of Bi metal anode
smooth alloyed in 21% KOH

Oct 28 1907



Telephone - wooden or rubber
cheek underneath the forehead

Telephone rubber on cheek & thickness
Electro-fusion chemicals at
brush & foil — amplifier &
acts as transmitter



1 – [illegible]

9 = How does RA purify H –
10 RA see that Dulong's pyrometer OK

13 Dr G work on Wenlock longflies
14 Pierman + Wirth + C Walker – ~~electrical~~,
15
16 Holland Put say 60 grms – Calloy pipe on hot test which 3 mins gives 120 or 130 –

18 Bonchurch Brookvale Cement Mixes –
19 Wenlock Brook Turbo Lab notebk & 1 Sylvia
20 ~~amount~~ Wenlock ~~impure~~ intermediate quality
21 = C word charges in all mixes –

25 Dr G determine rate of circulation of complete solution with 33% + 21% at def temp – also chge to ~~amount~~ of Na + deficiency of Na 9% – by spark work & Mean Dimensions

27 Holland chge dim A4 2 hi in dec water at 20 amp chge –

28 Holland. 4 times both but ~~substituted~~ KOH in ~~course~~ graphite rods known pots –

56.2 gr KOH. vs 39 gr small red mass
36 grms. H_2O or 45 grms Ferrous hydrate to metallic iron –

Tell Small ~~[illegible]~~ Brook Cement
Cubes on H ~~[illegible]~~

took a Raydhurst tube 7/9 24 p
soak 1 hour in 21% —
washed quick under hydrant —
put in front pm distilled water
one hour — No 3 tube
Dr G filtered sol 115 pm till
215 pm 92.7 mlg KOH.
2nd jar from 215 to 425 pm
gave 61.8 KOH mlg —
425 pm to 6 pm 22.85 mlg
KOH — 6 pm all night till 9 am
= 33.7 mlg — 24 hour output
5 mlg

Tell Holland 2nd hour on clay
was 21.50 in c.m. finish the
curve of elevation

21 KOH 2 LiOH in 175 cc
2 gms alkali 23.22.
21 + 12 LiOH. 34.00
27 + 2 LiOH. 29.13

Halftest of defervescence from tube
158 fahr 210 of 310 —
gave 123.8 Celsius — last temp
now in 60 @ 70 Centigrade —
off 520 65.75 mlg —
in 3 hours Cold 80 fahr 154 out
" " Hot 150 " 189 55

Hand sediment from Cell have
6 gms LiOH. 20 cc sol on charge
+ 20 ml dis + Dr G analysis of
relative portions of LiOH & KOH —

Charge 2 tubes — discharge one
take bottom rinse — open
Contents + assay for LiOH.
Use 21 + 6 gms LiOH each
Cell —

9. (put Tube 7/19 — L 10 cc —
in 12% KOH alone saturated)
1 hour. 21·6 mlg. came out
2 hours 10 min 18·8 came out
1 hr 35 " 9·6 mlg —
put tube in at 6 35 for
all night — at 9 pm
~~30~~ 31·2 L 10 cc

Reg No Tube from Hoppe fully charged
removed from cell with Clark at 8h —
Washed for instant under hydrant —
put in chilled water 1 hour,
it gassed very much at 2. The column has
about as much at end of hour as on
start = looks as if NO decomposing in water
Solution 1 Hour gauge - 120 mlg
2. 45 min 115·2 mlg

Have Dr Y column I am going to take
changed Hg - wash + put in chilled
water closed up - take it gas
given off to H for Oxygen

8.

4 | 160 000
40

12000 | 40 000 lbs water 1000.
12000 | 40 000 000 = (3300
36 000 000
4 000 000

1

50 lbs coal.

30
1500 40
60 000 600
(3000
1200

12000 | 36 000 000
36 000 000

104
20
208
17 | 2080 (173
2040 120
40 46
4 173
2076

4000
80
32 000 200
32 000 000 | 7,400,000

14 | 1040 000 000
98
60
56

200 000 | 7 500 000
6 00 000
1 500 000 | (37

330
600
198 000

Harmonic
Overtone
Specent
Tonic
Ebony
Lyric
Symphonic
Compound
Pendulum
Ebonoid
Diamond
Lignoid
Centrifugal
Eater
Alcol-

24
7
31

24
4
28

1000
857
143

240 (857
224
160
140
26

857
143

34 | 240 (735
238
120
102
18

750
735
5

750
265
3750
4500
4500
750

1950
1120
3 | 830
277
1107
78

120
1107
120
2217
1107
3 | 3,790
237
3160

Albrecht to Sharon 42
Warren to Sharon 20
Sharon to Mercer - 25
Mercer to 7 23
110

1 = drake spring apart burs not long enough
2 Burs not long enough 8# long plunger fill
light upward flowing of gasoline —
3 burs not long enough so no expansion of
gasoline —
4 = New mould made many bs different
5 plunger too sharp no chance gas
escaping
6 has friction on plunger hits harder
with larger loading. Try 2 2½ 3 lbs
7 Rings on too tight put on by hand
8 Collapse present tubes are of steel
only 250 - 450 lbs o plunger —
9 - Steel flake for contrast by allowing
long flake 1 inch and thin only
by its weight 1 oz 6 balls —
10 perhaps necessary load at angle —
11 Try old method load up with 84 f
18 + 24 7 + 24 — also 3 lbs —
12 = Too much or not enough cushion at
bottom or starting try more + less
should be none although whole tube used
shift bottom 5 5 — always by dumps
13 = with puff bottom + short burs whole
load shifts —
14 - me arms length good a bad tube —

15 - possibly slide together in wrong than
therefore - allowed bz loose quality how
made breaches of the newer had orbit —
16 - group mixed dump with wires —
17 test contrast — Tube with long pressflake
(18) ~~Another shape bearing shell for 17" [illegible]~~
19 - group old way dump 2 lb 84 f —
20 Take one out least group - of 9/10 KOH
2 lb of good ammo opening tube &
compare angle burs etc with present
tubes —
21 - Confuse the ammo —
22 allow air get out easy
23 old flake only 68 in gun) tube
[illegible] tapers which together make
lead bullet —
24 = 68 good flake fill H. wire bottle
probably would very springy flakes to
hang under + crack
25 Try group double chickens
nickel —
26 = Rig (groups dipped) 1st for ½ hour
in 21% Blue vitriol. Cu OH.
27 = Reversed for 10 minutes in KOH
old ammo —

28 if 27 is OK – try the 3 groups with 1029 –

29 – 3 groups tubes approved also appliances –

30 See if 58 tube which is partly poured shows puffing up of material in top part – or also bad lines –

31 – 1 cc of formic formed 1029 ~~Fe~~ anode in KOH 1/2 grams 40 ttl –

32 – group pink Forrest dip trim in it –

33 – dry run in KOH. blue with $CoOH_2$.

34 – point for flake chicks on to break up collar during pouring –

35 Dry some 708 for 1 or 3 hours, make the 3 groups after it's been cold 1/2 hour then another set groups after 6 hours –

36 = Take out one of Banner tubes not both, break out most KOH & dry-saw it open –

37 ack'ed only 1 of 4 as in good tubes one difference

38 – Examine Banner tubes – see if spiral 1 or 1½ turns –

39 – Grossly make some flakes with intermediate work say 3 to 5% – brittle flakes like Cu Sup, cause removed & make his process –

40 – chg group at voice normal –

41 – chg group normal short Ellt –

42 – group with current on before pulling in liquid

43 – Current on 5 minutes after part in liquid

8.27

Sheet steel cans
all sizes & parts length & Radius & diameter 10.00

43 = put in ice water & charge 1st time normal + keep cold during charge —

44 = ditto Hot 100 deg Normal rate —

45 - Charge + dis. cold 4 times Cold in 33% put in 21 10 hours then in fresh 21 for Hot look.

46 = 3 gms LiOH. 21% run 5 hours & soak out LiOH. put in 21% Pinkish —

47 = Nickel Hydroflake old very dump. rosin on flake — Dry 5 min/24 hr. Granulate make lucas thick / brittle flake

48 - charge fully discharge only 50% charge fully again discharge 50% of supposed capacity - then charge full again + discharge Regular 3 or 4 times.

49 - charge 1000 ma - discharge 500 chg 1000 dis 500 charge ~~[illegible]~~ normal discharge ~~75% [illegible]~~ normal -

50 chg normal dis 75 chg normal dis 75. charge normal dis 75% chg. Chg + discharge full at normal & observe times —

51 = Charge 500 dis 350 charge 800 dis 560 chg 1200 dis 840 charge 1500 dis 1050 - charge Reg dis fully

52 use platinum anode CPN Cathode Warm pass 200 mil a for 24 hours use Uno KOH Cold on fresh group chg + discharge normal — get info out

53 = dip group water then dry out
54 dip group 21% KOH, Dry out.
55 " " water Entering 20 mlg HCl. dry
56 " " " 20 mlg KCyd.
57 " in strong Hypochlorite wash out,
58 Dip in Saturated LiOH, bank out.
59 Clean flake in Conc KCy - wash & dry
make group —
60 Bank flake Conc LiOH, boiling in
Ni dish - make group —

Dry group flake with HH, strong HCl
wash & dry

also Bromine 1 oz Cor on flake
CCl4 it —

365 / 30000 / 4320

711 f thru HH then Cu Sup again -
Jump group Jump flake

6792 — 8.639

6793 — Ditto 73 flake.
8.060

6794 — 71 strip flake
7.784 -

6795 73 flake plunger water each
drake —
8.264.

all the above made same group
as 6792 =

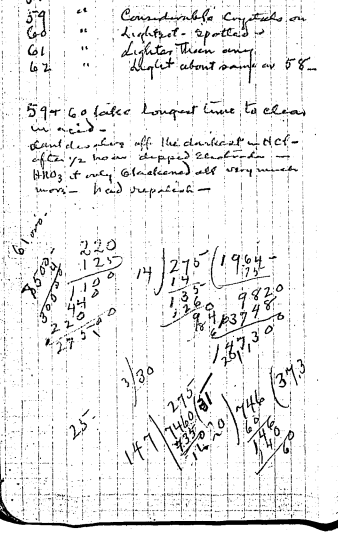
0.911
7.911
1.9.1
2.4.4
0.4.2
0.4.0
55
48

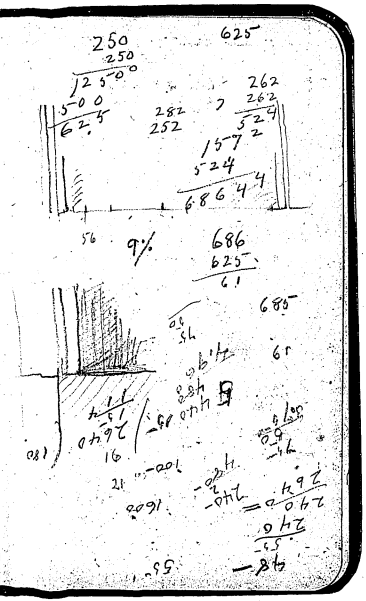
1.7.6

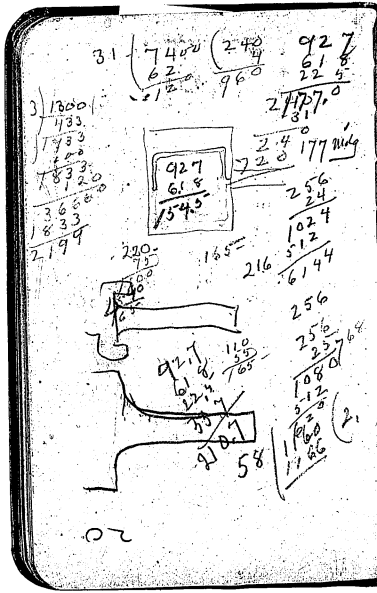
-9.11

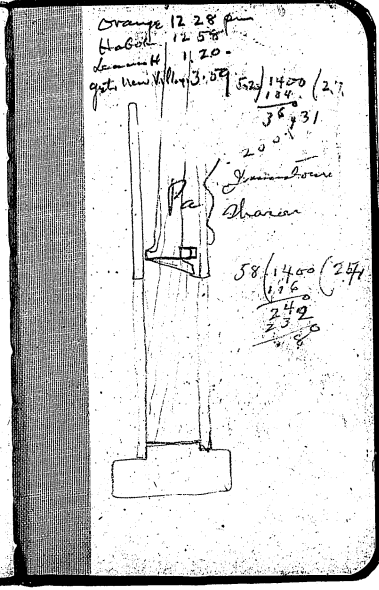
57 = Brown light
58 " " shade more
59 " Considerable crystals on
60 " Lightest - spotted
61 " Lighter than any
62 " Slight about same as 58 -

59 + 60 take longest time to clean in acid -
Acid deposits off the darkest in HCl - after ½ hour dipped 2 centrifuge — HNO_3 & only (Vaseline) all very much more - had precipitate -








Orange 12 28 pm
Hoboken 12 58
Lackawanna 1 20
Pa
Shaver

Notebook, PN-07-00-00.3

This undated pocket notebook was probably used by Edison during late 1907 and may have been used in early 1908. It contains notes and lists regarding experimental work and other tasks to be performed at the laboratory. Many of the experiments pertain to the composition and performance of alkaline storage batteries and to related chemical researches. The entries describe groups of test cells, indicate experiments with bismuth compounds, and list insoluble alkalis. Other experiments relate to dynamos, phonographs, the hardness of phonograph record blanks, molds and tints for cement, electromotographs, and an amplifying device. Among the employees mentioned in relation to individual experiments are Robert A. Bachman, Walter E. Holland, George H. Hooper, Jr., Ludwig F. Ott, and O. A. Rogers. There are also notations about patent, business, and clerical matters. Included are reminders to talk with Frank L. Dyer about a patent on a speaking kinetoscope and about possible legal action against a phonograph dealer; to suggest marketing ideas to William E. Gilmore; to instruct John F. Randolph about signing checks; to contact Walter S. Mallory and William H. Mason at the Edison Portland Cement Co.; and to dispatch William G. Bee to do research on electric vehicles licensed in different states. Also included are notes about printed sources that illustrate architectural details, for potential use with a molded concrete house; and listings of the numbers of motion picture films sold during autumn 1907. Three loose sheets containing entries by Edison on phonograph patents have been inserted into the book. The pages are unnumbered. Approximately 90 pages have been used.

PN-(07-00-00.3)

Enter this book

20

Thos A Edison

Edison Laboratory

Orange NJ

If lost please

return by mail

$$\begin{array}{r} 1840 \\ 120 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 3 \overline{)13260} \\ 43 \\ \hline 16 \overline{)1133} \\ 16 \\ \hline 73 \end{array}$$

$$\begin{array}{r} 108 \overline{)3680} \\ 1840 \\ \hline 1840 \\ 1840 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 108 \overline{)1840} \\ 108 \\ \hline 760 \\ 648 \\ \hline 112 \end{array}$$

$$\begin{array}{r} 220 \\ 55 \\ \hline 0 \end{array}$$

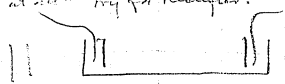
Non Com Dynamo

For 60000 Volt Direct Current Dynamo Commutator the fixed insulation of the commutator

Can you make Mica cylinder of required & Paraffined Cloth

HOPKINSON & SONS
SIDCUP
KENT

Ostwald says Mercury in H_2O does not conduct the current so it is not decomposed at all — Try for Reduction.



Pass powerful current thru & then make various color precipitations in the middle to see if polarization of the intermediate liquid affects the reaction

$BiCl_3$ from Double Salt with Chloride Na K NH4 & probably $BiCl_3$ —

Try full strength — soak — throw in large quantity H_2O — wash dry or do this 3 times — then dry & boil KOH —

$BiCl_3$ Sol in Alcohol containing a little Ether —

Try full strength $BiCl_3$ NH4Cl 10 min soak — then throw in large quantity water dry & use in tube without KOH treatment

Bismuth Mercaptide — $Bi_2S_3(C_2H_5)_3$ obtained by mixing a Bi Salt with Mercaptan in Sol in Alcohol & also Ether

Test metted ice for organic, Al_2O_3 Si & NH4 — manways water is always remarkably free of NH4 —

Bi Iodide $3\frac{1}{2}$ Sol 100 alcohol

Thiocyanate Bi — not decomp by hot water — glycerine in alkali or boiling reduces Bi_2O_3 to metal —
glycerine $1 H_2O$ — glycerine must be 4 times the wt of Bi —

Bi_2O_3 from Nitrate precip by KOH in presence of glycerol — dissolves in Excess — by adding glycerol & boiling the Bi is precipitated metal
Fat Nid dissolves with the alkalies glycerol possibly could make $N(OH)_3$ free of Metallic Bi this way —

Bi K Iodide — BiI_3 $KI + 2H_2O$
Sol in Ethyl acetate —

Bi Nitrate or other acid salt is mixed with considerable excess of Na pyrophosphate, more than necessary to form the sol double salt then NH_4 Carbonate till sol alkaline —

See if Bi Oxyiodide is sol in anything

Fatty acid sol $BiCl_3$ to which a rather strong sol of Na thiosulphate is added — liquid becomes yellow but remains clear — water can be added to any amount without precipitating Bi
The amount of this should be 3 times the Bi — The double salt is sol in alcohol — on sol decomp on standing the more rapidly the more conc it is — heat also assists.
The double salt splits up into Bi sulphide & Sul acid —

KCl produces a precip with it sol in water nearly insoluble in alcohol

Tartrate Bi sol in KOH — quantity Bi is also

Bi Citrate sol alkalies

$BiCl_3$ forms with NH_4Cl the double salt which I am using it also forms double salts with KCl — NaCl + probably LiCl —
see if sol in non acid —

Oxalate of Bi + Ammonia
dis in Hot water, clear
Sol – becomes turbid in few seconds

$BiCl_3$ 17.1 grms dissolves
in 100 grms Absolute
Acetone at 18

Nitrate Bi $Bi(NO_3)_3 \cdot 5H_2O$
dis 48 grms in 100 grms
~~Acetone~~ Acetone at 0 &
41 grms at 19 Cent

Alkaline Carbonates throw down
Carb Bi the precip is
perfectly Sol in Excess
of Carb Ammonia —
but according to Berzelius
is not Sol in Liquor Phosphoric
or Arsenic acid in Excess

~~Hoop~~ Hallcand Lect
Litt Tube in ice discharge only

Have one Bi good tube given
Hallcand to discharge in ice —

Reduce BiOH by different reducing
agents – work + then dissolve
+ have Hallcand test Conductivity

See if Hallcand got the
Sulphur out of the tube
with grease Mg Sulphide
Mg chloride

Sodium dis in anhy Ethy
Seeley Chem News XXIII 169
powerful Reducing agt + Na dissolves
to Blue Liquid +

Hydroxylamin base
powerful reducer

~~Hydro~~ Hydrosulphurous acid
made by current acting on
Na Bisulphite in solution
Use porous Cup " " notes

Na Thiosulphate in Oxl reducer
Cupric salts to Cuprous reducer
it forming double salt which
is a good reducing agent

Arsenious acid in alkali
good reducing agent

Vanadium Reduced by
Zinc blue Lepidol
Reducing agt

Allow upCP Nickel tubes
Rogers as perforating

Stable Solid Zinc Hydrosulphite
passing Sul Dioxide into a
mixture of Zinc dust &
an alcohol at a temp.
about 40 Cent.

See if Ethonic fm small coil works Emq with
Aluminum wire as a point
some time

Try dif Mixtures of Graphite in Emq.

Lowe Oil - 2 plat strips plate out ace
that will come but if 21% KOH in the dish
wash plat with acid + leave solution for
test

Obs No 4 Ni flake tube don't forget it
in regeneration

Boil some green in 21% Contain
2 grms Aluminum dissolved
used if green is burnt

If 707 contains traces of Al_2O_3 by boiling solution with Manganous Oxide in open vessel & carries down Al_2O_3 possibly must precipitate $MnSO_4$ & do it = removed by 69 Bn Off Walls —

Heat some green with Iodide K & some with Iodide K then make tubes test —

Try grinding 4 sqr flake Ox 708 of with Iqmy well washed HgO in Torch dec — to verify effects & also one with $LiOH$.

Al Reeffer try Bi Carb Nitr in which Al_2O_3 is insol —

Soaky mass in hot Conc Sol Na Sulphate neutral — take out & dry then wash off with water & little dry & use

Try finely div Ni with f Coke & 4 hours $LiOH$ in 25% KOH see if get reduce then well washed off $LiOH$ & then the Ni

Copper dissolves away in 10 NHCl at 80 Cent, not NHyCl —

Try 2 Emgs in series & multiply see if w Falcons —

Try Ferrocyan Cu & also Oxych Bromide for Ring Cylinders —

Try melting point Pure fuse & then electrolyze under powerful electric charge —

Pass powerful Current thru rod metallic Uranium see if more radiation —

Subject Uranium metal to X rays for some time & then look its radioactivity —

Put Calcium Carbide in Carbon Tube & pass see if Dennison's in tube —

With Square f Coke try 708 Hot plate & also in dev Incandescent Lamps to settle the question —

Record on phono using a Carbon stud brilliant throw - diameter on Eng with double dia very sensitive

Make a Rectifier for Centos & large Current by using a big dangler & Eng Chalk Iron by water

RQ precipitate green with flouted phenol or oil 3 oz for test of

Try coaxing H S thru zinc & then allow to settle see if anything known found or its decomposed

Form $NiCl_2$ & cake in an Emely crucible salt solution water or benzol - if in water could dissolve out by bubbling passing hydrogen thru the weight wanted reduce to metal

RQ Make batch 707 1/2 w filt - dried has to at, exactly up -

Try getting Colloids out KOH by shaking with petroleum benzol in presence any - Colloids adsorbed in the petrol & float on top -

Copper reduced to a mirror only by Cons by Aromatic hydrazines

Telephone gauge full of thin KOH, Cond in bed like passing an X'ray plate

Hydrochloride of phenyl hydrazine sublimes in the flakes thus reduce metals -

Mixing KOH saturated with lead oxide at cooling gives a cake chemist should be produced to oxide of $PbCl_4$ - the latter boiled out

Anhy $NiCl_2$ absorbs NH_3 forming Am Ni Cl - will thus be decomp in Ether decation etc dissolves out NH_4Cl of H_2O_2 be put in -

Ethylate Sodium powerful reagent - action Na Metal on absolute Ethyl -

Ethylamine precips Ni from its salts but dont dissolve them in Excess, + includes NH_3 dissolves Ch_2O_3 in presence -

Formate Na is good powerful reducer throws down Palladium from some solutions - by Na Sulph

Ni Carbonyl - deposit metal on dry Salt + decomp air Chr Ch.

H_2O_2 added to strong Barytа water precips perox Ba on Scales - add these to Sulphate Ni + thus deposit $Ni(OH)_2$

Chl ammon added to Mono Carb of ox, Na or Sesqui Carb NH_3 makes a solution in which Ferrous hydrox dissolves completely -

Copper dissolved by boiling Ferric Chl onto Copper wire see of works of Lake -

Boil some of the new NO_2 Gas with KOH. wash well + Run Reg

Try Sulphite Cop saturated with NaCl to dissolve Cu from flake -

Reduce Ferric to Ferrous + heat with 130 gms Water 200 gms NaOH. Ferrous will dissolve but not a trace of Nickel 5

$MnCl_2$ absorbs NHy then if heated is reduced to metal!

Hypophosphite K + Na Sol in alkali try " of LiOH

Group mons bowr. side out.

Test our distilled water for NHy

BaOH to form $BaCO_3$ to take CO_2 from Ni in old tube then dissolve the $BaCO_3$ by Chl NH or Succinate Ammonia. — When $BaCO_3$ is boiled with NH Chl the completely decomp to NHy Carb & BaCl — blue dissolves easily in same NHy Salts + in NHy Carb! Try bad tubes —

1 pt K_2CO_3 10 H_2O pass CO_2 to boiling lime, with more lime sol reverse reaction take steam KOH tube CO_2 from the lime — then explain Thinkup —

Soak grain in Cano Sol neutral $MnCl_2$ — dry boil KOH —

Revolving Microdesk Epoff

[illegible] under side to E. telephone various fields + electrification — discharge at X Holz machine amplifying devices.

Regeneration — discharge all tubes to Zero —

Soak out KOH in slightly alkaline Sol KOH. then in test tubes soak in sol of KCl 100 mlg 24 hours, then wash out 24 hours hot in large amount very dilute KOH, just enough keep from Rusting —

Attle Hypophosphite Na — boil several hours then pass oxate out in weak KOH. in weak KOH

Attle LiCy —

" 200 Mlg NHyCl as neutral as possible — boil —

100 Mlg BaOH, sealed — then soak in Chloride NHy neutral as possible — Boil tube in weak ammonia 1/3rd strength

" strong

50 Mlg K_2CO_3 100 Mlg LiOH, test tube

see if any oil or grease on
our bag tubes — then clean with
Carbon Tet & KOH. then water —
Carbon Tet on Bag if no tubes to
avoid use of bad gasing
Drop the long tubes
with 5 flakes in 21
various 21 OH — No 2 f
1/2 thick —
ditto 4 No 2
" 3 No 2
2 No 2

Reserve hunting up the
Refrigerated CP Ni for
test Tubes all Ni —

Soaking green in Titanium Sol
no 2 OH. showed gas after
24 hr — only one sample
Bi Hid dichr gas from
1059 to 1062 — Work
variations —

Run a group Tubes while chg. soaking
with Rubber 066 — try glass for
insulation temporarily the glass
Carbonly form on rubber hot —
6226 cobaltously gas 630 — cleaned
Reuben gave run 4th run 1060 —

Rep 1/2 wash filtered/dried low
heat Mass acting same as
6079 — with square No 2 ox
flake — see what it does
under good conditions —

green soaked in Ni SO4 1/2 bottle
to receive 10 gms Ni SO4 — dry
dont use KOH. but soak tubes
in KOH 24 hours after making

Group # 599 f No 2 ox
708 — 21% dont chg KOH
ditto 2 21 OH dont change
2 Fr% 3 21 OH dont change
2 long time long
tubes — ditto 21% 2 NaOH

group also Reg/green
soaked in water & boiled 30
& fizzle dry —

Long tubes groups
50 mily 100 200 500 750
in 21 & in 25 to
Neutral ship 1 oz 2 gr
of Lake 4 = 1/2 ounce

See about 10 lb of wax over
Bergman and he will
run — send bill required Mr
also Cabling Anis Chrin
Sen Stevens —

Oxidize some tubes
Reg plated Nickel reduce —
H — also run on 1.0 H —
also oxidize CP Nickel
& Red run in 21 & 21 1/2 hr H
also Ebrd brass plated
also Reg lightly ox gun metal

See if can coat tubes with platinum
& bring up in Hydrogen — also silver
Try group tubes Aqua also Bismuth —

Make variations with HCl_2 &
$NiSO_4$ soaked in green & coffee are to
be smelling to test

Heating flat plate 707 & 708
Cool and 1/2 lb good — vary it
4 to 2 1/2 —

Boiling green in HCl_2 good
vary test & flake too No KOH,
ditto in very Titanium —
Try group tube not plated in 21
& Group — 21 2 gms 1.0 H —

Insol alkalis

Cupric antimoniate $Cu(SbO_3)_2$

Mercuric "

Lead arsenite $Pb(AsO_2)_2 * H_2O$

Ag " $Ag_3 AsO_3$

Boron nitride

Lead Chromite $PbCr_2O_4$

Mg "

Zn "

Ca "

Iridium Trichl $IrCl_3$ anhy

Lanthanum Hydroxide

Molybdenum Sesquihydroxide $Mo_2O_6H_6$

" " Mo_2O_3 also Mo_5O_{12} dilli MoO_2

Molybdite Mg $Mg_2MoO_3O_8 = 2\ MgO\ 3\ MoO_2$

Potassium Sodium Columbate

Columbium Diox Cb_2O_2

Platinous Cyanide

$HgCn$

Didymium Hydrox

Erbium –

K Ferrite

Ammonium Ferroheptanitrosulphide

Calcium Ferrite

Mercuric Iodate

Mercuriammonium Nitrate $2NH_3\ 2HgO$

$N_2O_5 = NH_2HgNO_3 + \frac{1}{2}H_2O$

---

aluminates Ca Zn not [illegible] by KOH [illegible]

[illegible] not attacked KOH boiling [illegible] Mercuric Sulphide [illegible] 2 [illegible] Na Sulphide & [illegible] 1.33 [illegible] Hg [illegible]

Ba Ca Mn Ferrites not sol boiling KOH.

P 832

Walls 1st Sup MoO_2 fuse Na Molybd in porcelain crucible [illegible] Zn added by small [illegible] boiling heat till crystals [illegible] [illegible] KOH + KCl [illegible] H_2O dark blue [illegible] strong metallic lustre Conduct [illegible] not attacked by boiling KOH or HCl.

[illegible] in [illegible] KOH [illegible] Cathode [illegible] Run [illegible]

[illegible] $HgCy$ –

KI Ferrocy – [illegible] HgCl

[illegible] – Oxalate K –

[illegible]

NH_4Cy LiCy – NH_4 [illegible]

[illegible] sulphate

2 pts Na Sulphide [illegible] NaOH [illegible] 1.33

Solvent for Hg Sulfide

Compounds not sol or decomp by KOH

Di Mercuriammonium Carbonate not decp by KOH
" $CHl + H_2O$ "
" Mercuric Chl " " mod

Cuprous Sulphoxanoate not affected KOH
Mercuric Sulphide mod. boiling KOH

Regeneration
Chl Ally Sulphonal
[illegible]
[illegible]

Try soak gross Ammon fluor. [illegible] alkaline
also for Regeneration.

also Ammon Fluoaluminate. the
Bact decomp & sets free fluorhydric
acid which will then combine &
form Sol Salts with X
Ammonium Salts & Fluorides are good
Always try dissolving acetate X

group all CP Ni-oxidized Peacock
705 702 ½ f ox
dotts mw 707 2 hour filter bag

Regeneration Mercuric Sulphide
Sol K_2O in presence Alkali
also KSH, ~~[illegible]~~
Conc Na_2S even in presence KOH.
Nathiro

Hooper run slowly cuts on
the good ad 707 no Lioll

Dr [illegible] as by the 1340 wash
Bi-gram for Bi 6%Bi

5 groups,
3 ~~[illegible]~~ 10 gram stamped
1 min dried boiled 10%Koll
ditto 3 min
ditto 5 min
ditto 5 min boiled 21%
ditto 3 min boiled 5%Koll
No wash —
Conc $BiCl_3$ $NaHCl$ —
tube dropped into making
also 708 — Dup of 1348 [illegible]
if enough left —
also make more 708
to dup it —
also 3 min [illegible] 719 —

from 2 Lioll groups
soak out the Lioll thoroly &
thereafter run in 21%Koll

find out from broker from whom
I got the Bi_2O_3 from abt
Bismuth and Yolung for
his letters he quoted Bi

Scheme Sickels Iwo Blocks on Knight's
Strip — Take Bargaining also
photo + send Rep by Strip
on it in it comes out a bit
transfer — Glaister

try 3 grms for 2 fl½
in 100 cc H_2O add of tube
iron out of flake

getting of the Chi tube
grid to have Hooper
see how it comes down
before

~~Mi Electrode~~

~~KOH~~ ~~Sol of KOH Electrolyte~~

~~Mi Electrode~~ ~~without boiling~~ ~~Electrode.~~

~~have end Electrode come within 1/32 of KOH~~

~~Dally precip Jumpelitz Soln by dilute acid forms Dihydroxyl Anthrin Soluble~~

~~Hydrolyzed by reducing organics made~~

Anthraquinone without ~~only~~ all oxid. agts, alcoholic KOH or ~~chrome~~ ~~Fuse~~ KOH. to Oxid. Anthracene.

Not sol in KOH, marky sell hydrosolum ox by chrome except Anthracen also in KOH but Anthraquinone dont – there in way to operate it by the insolubility – KOH – ~~anthracene~~ ~~and Not Benzol~~ ~~also alcohol~~ ~~sol~~

Anthraquinone sol Aniline ~~gives~~ " alcohol –

Try Carbazol sol Alcohol acetic Ether –

probably green on ated aniline when oxid by Hypochlorite K forms Ind bu. ECO aniline. we made file of ~~a~~ ~~not~~ ~~sol~~ in KOH – made some – Hypochlorite forming in aniline & heating –

Try Nitrate Uranium green a precip by KOH.

Anthraquinone Very slightly sol Alcohol slightly sol Benzol gives Aniline best solvent Hy dont hurt green

Carbazol not affected by Alcoholic KOH even at 300°C

Sol – of pts – 100 alcohol at 14° + 3.18 pts at 78 also Sol Toluene .5 pts at 16° 5.46 pts at 100 Cent

Not reduced by Sodium Amalgam

Carbazol is however oxidizable by Chrome in acetic & &c

Therefore inferior To Anthraquinone

Solar Cement
Mix Chl Lime with Cu Nitrate
from Lime-salt of Copper and
brandy & water over

Try 2 grains in 1000 cc 21% K.
When plot in glass Sodium sol of
fol days if only part in green
Try Sr Bi in green

Carb Ba Sr Ca.
otherwise of Ba Sr
plus Bi Bitho Bibenzyl salt. sealed crystal
Sol 20000 H2O not accompl Kotts.
plus Bi Bitho Stilbene salt not accompl Cy Kotts,
which accompl from.
Tinctures Ba Sr Ca Jap boil
Urohmate K
Antimonate Ba Sr Ca Jap boil
fol try also

See problem for just slight action
Water make 1 ounce — then dip Ba Cl
dry — then Na NO3. dry — precipitate out.

another orange dot paper — penetrating out —
the Chl between the [illegible] as [illegible] gets in

Barium Urohmate & Jap & oil Kott
Strontium " "
fol make groups.

Billy-Bee — get from state bureau
definition — all [illegible] licensed who owns

Tell Randolph that
hereafter I will serve
Cheaters for the boys of
Washington —

ask John what our
letters are at Edison

Mallory — new man can
sell wheel delivery
ask Holland if he looked
the group to Bi pure
1400 mil amp

719 2 hour

Make Conc HCl from 705
+ Soak dry + Cool KOH, phenolate
dry + 12 stack, dry + cool KOH
percolate & dry

another group 3 times, 719 2 hour

Aluminum 125 Cones with
small bracket for Dusker
probably reconfig Cones, Cast iron
Cones 15 dia hollow or Cast iron
screw with gallows iron @ 7 11 11 @ 11 expensive

Condenser 1 Elev for all the 5 Pipes
for all the small or 2 Elev

Bend down stacks on the 2 dryers

Be sure heat some
flake with HCl to
dissolve out any impurities
+ Cry

ask Fred all of he sent
best runs to Somerset

test viscosity of Clays dif
Kinds for decomposition in
Cement Silica Shale
Lime Fullers Earth
Kieselguhr - Carb Mag
Rosin Soap - Trylig Phosphate
Alumina
Soda + K Sops gelatinize -

Export Silicate Soda on
Cement Impurities -
Pb Carb from Sulph +
phos lead precip Water
Glass digest Concrete
Impurities

put Chloride of Ca in Cement
+ Neutralized Sleavale K
Wash + heat iron Impurities
Sleavale Ca neg to the
Water Brings it Other
Sleavale in ok

group 5 grms Bismuth Hydrate
Each cell — 2 grms LiOH.

$0.51 the one that gives
1467 — 27%
2 grms LiOH
and rubbers 2 grms

807 —

Purify H — Ra —
1st H_2O 2nd NaOH.
3rd = Chromic ac
4 then NaOH.

Crystalize once KSO4 —
Crystalize by BaOH —
Test often voltage — effic chg
use fresh iron + Ni —

ditto 6 Crystalizations —

also drop with Baryta prox
Recrystalize —

Holland to try open volt
with Cu — H_2O electr. plat — see
if falls Brown —

Daly Reg no H from Zinc +
abstrs is bromine + H_2O —
use 1st H_2O 2nd NaOH, 3rd
Chromic acid 4th NaOH or KOH,
then ~~phosphoric~~ Glacial phos Stick

group — flake treated HCl 5 gr 1/2 ox
5 grms to 5 drops Conc HCl —
warm — brought H_2O 5 grs 1/2 "above flake
ditto 5 grms 5 drops Nitric
ditto, 10 drops Conc Bromin Water
Make 10 grm tabs —

~~group of Ni gauze tube come out~~
~~719 Ra 2 tubes —~~

~~ditto CP Ni 2 to 719 flake added~~
~~only acid 1/2 ~~

~~U 3 feet long powdered glass~~
~~pieces glass moistened Nitrate~~
~~Lead absorb H S~~
~~2nd tube with glass moistened~~
~~Sulphide Sub H —~~
~~absorbs arsenic hydrogen~~
~~Sulphate Cop absorb H S.~~
~~Arsenic Sub H of glass~~
~~Hydrogen acid gases~~
~~absorbed by U filled with~~
~~Lump KOH — first U for~~
~~broken glass & glass tubes~~
~~Sticks broken up —~~
~~No phosphorus — also H 2 O 4~~
~~Chromic ac —~~

~~Sec that H_2SO_4 is free~~
~~of Oxides of Nitrogen.~~
~~Bertha Zinc — Elify Co~~

~~10 gms flake Na drops~~
~~HNO_3~~
~~ditto 10 gms 32 drops of HNO_3~~
~~new Hydrogen flake~~

~~test $Fe_2 + Al_2O_3$ new flake Mg~~

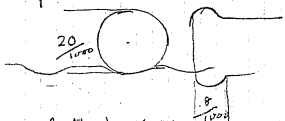
~~Treat 60 grams new flake~~
~~8 drops HNO_3 10 with acid~~
~~16 10 with 24 & 10 with~~
~~32 drops to neutral —~~

~~Oxreduced put 100 grams~~
~~back in Copper absorber~~
~~solution — Wash gauze~~
~~50 grams — treat 10 g~~
~~with 8 drops nitric~~
~~10 with 16 10 with~~
~~24 & 10 with 32~~
~~drops nitric~~

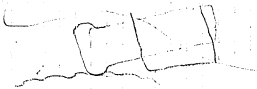
heat 10 grams of flake
oxidized Gut in retorted
with 8 drops nitric
detto & evaporated —
The put in crucible on
large tray bath & reduce
Nely H +

Write Mason
Analyse sheet in
No 1 or 2 Dryer
perhaps tin much
Clay to be useful

Layout on board

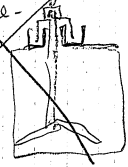


see what trading button
has the shoes to Weber & Miller



suggest to Miller burnt rubber

Possible for Mfg Co Assembling
Special -



Keep Mfg in

Got last fast auction days
when my batches on
dish the wrong bowl
Colored with Lye?

Rec Bookkeeping about
that Commit a course on
Stick Chapstick —

find out how developing
Nitrogen Explosion on
$2504 —

Dow Chem Club to make
lead Compound which
proved in regress the
one in bank.

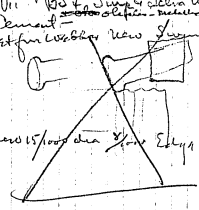
Barnes Waffle 3 ft sgt
mould with ornaments
on Cast 3" thick

Hertler – Ulong/drawplatform

Jwa – work at L&L Meyer
send down plug &
20 thread Mounted & Reproduction

Bell Bee –
Get space down for our
Board Rack for Goodrich
people

Dyer patent Kewels xylophone.
BS + Jung & other Wally works
Cement –
Get from Lockhart new Jung Reproduction



New 15/000 dia 3/4" Ellyn

Dry prepd Carbonate
with Sulphate Cu & Chem
Comb Sodd
ditto Chromium Sulphate &
Chem K Cl4

Proletariat

Bismuth

Cobalt works at Oberschlema
and Pfannenstiel in Saxony
which incl principally ores from
Schneeberg & Austr-Hungary

Johann Wilhelm Incl Austrian
& Bohemian concession ores from Port Chalo
Bolivia

Meymac France Pb ores
mod value

At St Andreasberg works in the
upper district of Harz Mts containing
Bi in a cl to facilitate
treatment

at Frankfort-on-Maine in the Works
of the German Gold & Silver
Refining Bi is prepd from
skimmings

Debo Smelting & Co work about
Bismuth —

Web Bilbao — ditto Bismuth of
Bi Co — Ammonium Sulphate Cl
Nichols Chem Co, 64 Bi

Fred Ott mixed Couple
cylinder for Eng of
Fuller's Earth —

Recov of Bi Cold
ditto Bi Lead Cold

Dry insulated partition in
Rubber Cell 21 K Volts
10 years & was was good
Dynamo Telephone

[illegible] Ellis [illegible] office of London
20 wide —
make 2. pence multiple —
also if in [illegible] make
Chalk very narrow to
distribute [illegible] 20 woman

[illegible]
about [illegible]
[illegible] well [illegible]
Mail [illegible] of a [illegible] [illegible] Chairman [illegible]
[illegible]

In old [illegible] I found [illegible] stated that
a Reg pocket [illegible] through with
plaque [illegible] under 750 to V
[illegible] 20 where on the same
pocket [illegible] [illegible]
Clay [illegible] 400 to V
when [illegible] close to the [illegible]
[illegible] change agent
[illegible] when [illegible]
[illegible]

The Appian way in the time
of Augustus — Mrs Ct Stewart
Caligula — ditto Poppice Vespa
(thumb down) Roman Chariot Race
all in Stewart Cheltenham

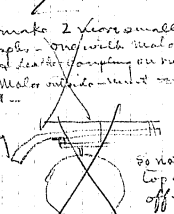
[illegible] Chairman Mahals Houses
[illegible] Chairman ditto
[illegible] Pipe [illegible] & my. Marital
[illegible] — House in [illegible]

the Clay
See Reps [illegible] has many on rep Albany
[illegible] [illegible] [illegible]

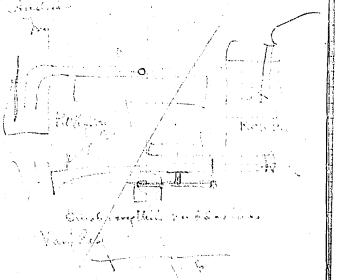
[illegible] [illegible] [illegible] for
Clay models [illegible]

John all make 2 [illegible] small
Mahogany — one with Mail of
a [illegible] [illegible] [illegible] on rubber
Enclosed — Mahog [illegible] — [illegible]
[illegible] Ct —

Wooden tray



Do not cut
top [illegible]
off —
in 202 thread



Schulz & Weiberg – Wallenstein
see the wood-finish & grade of room walls –

Return from the Front – Mantel
finish – XII Section of Lessons
Arch. Jr.

Mansions of Eng – Porch at
Audley – plate 29 –
Fireplace Woodly plate 21
Porch 344 Vol plate 61 –

Spencer's House St L American Architect
Oct 27 1907 = Cancellation on Columbia Tower –

Hemmer on Architecture Place
Burbank Mch 16 1907
American Architect Roof –

Make 20 Sr CO_3 + Try
10% KOH + 5% of other chemicals
mixed for boiling –

Tasmania at Mt Ramsey
Bismuth Tin & and be
danger in the wind

~~Tickets for Doyle + wife Jacksonville 2nd Class~~

Bismuth is contained in Copper Matte from Blue Lines
~~Copper~~ found out –

Film
24 Wellsen boxes 50 wells
Specs up to 30 42.5
Specs between 30 to 35 37.5
Specs above 35 to 40 40 over 32.5

There was Rhenocontining
Sulphide Sb & Bi in
Shoshone Co Idaho 3 miles
from junction on South
Fork of the Coeur d'Alene
River

There is a mine at Loveland
Colorado, ore was shipped
from there 10 Ton Bi —
in the Chicago output

Use 719 soak Bismuth
8% simple — 10 mins —
wash ethyl dry bad
Kop wash well then
soak Hgl rotten wash &
dry above in KOH, look
at tube & not, idea is the
Bismuth must have
Mercury

719 & 708 - filled with
Bar Sulphate. These all ammals filled
with Bismuth — Also Strontia

Also Carbonate Ba also Sr Carb
& Bi —

also ~~Strontia~~ Sr_2CO_3 Bi + Hg

Strontia Chl K SO4 - best.
use this with Bi also
Bi + Hg —

	Cold	25
Sr SO4 — pres	1211	1219
" " 60#	1130	1254

This is good base to start
with — for Bi + Hg add Iron
use 719 2 hour

Better try the several greens
with the Strontium —

also Vary 719 2 hour
by soaking different times
also try last soak of the
2 Reagents —

Transliqide (Why $Pb(OH)_2$ in Solution
but it [illegible] — Put it in book
it will use up probably separation

for Rechecking RCC dry green
Heat on hot plate and [illegible]
right away do some on coal
in Closed box — 21 & also 219 —
2 $Pb(OH)_2$.

Dip the $SrSO_4$ —
21 21 & $Pb(OH)_2$ & of strength
25% KOH & $Pb(OH)_2$
2 of above in Brock
group —

dissolve green known
$SrSO_4$ in SO_4 recheck
[illegible] $SrSO_4$ in it —

Chromate & $BaCl_2$ — 1211 1217
[illegible] 1142 1241

Try CrK & $SrCl_2$ —

Dry Coal 55 [illegible] grades
Mg [illegible] more [illegible]

Sr Nitrate in [illegible] coal
find a more [illegible] [illegible] will
[illegible] [illegible] [illegible] when
$MgSO_4$ [illegible] Try [illegible] heat
[illegible] Sulphate.

Try $Cd(OH)_2$ in [illegible]
[illegible] MgO.

[illegible] Co & Si [illegible]

Try Soak 719 — Crub [illegible] dry then
in $MgCl_2$ [illegible] 12 hours to form
$CaCl$ Mg in [illegible]

Soak 719 in $CaCl$ dry [illegible] crack
in [illegible] $CaCl$ — $MgCl_2$

Soak 719 [illegible] [illegible] dry [illegible]
Cone $BaCl_2$ [illegible] [illegible]

Soak 719 Cone $BaCl_2$ [illegible] dry
then soak in Boiling Acid Cone
$MgSO_4$ [illegible] hours to crack well

Soak 719 in [illegible] 12 hours — 2 crack
[illegible] — then dry — then soak
Cone $BaCl_2$ $MgCl_2$ $CaCl$ 12 hours — crack
well

Soak 7 19 Phosphate 12 hours 2 quarts warm
then dry = then soak 12 hours
Chlorine dissolve Chloride —

Bitts soak 12 hours Chlorine [illegible]
2 quarts warm — dry then soak
K or Na Carbonate also soluble to wash
must wash also — soak 12 hours —

Phosphorus cannot be dissolved
by boiling H2O — must calcine with
phosphate and decomp HCl

- Hornblende, Titanite — Mat Calcine with
good — impurities must be equal
Bitts phos similar — must decomp HCl
Aluminum Chl & NH4Cl formed
double salt — not decomp by H2O
or the air —

also SnCl dec in decanted water
1 300 pts Bitts to 1 44 quart H2O
more from more H2O or air
Aluminum from double salts
with several other [illegible]
which are crystalize —

Stannic Chl form — [illegible]
Salts with other chlorides
which crystalize — [illegible]
formed by increasing [illegible]
of 2 chlorides [illegible]

The common salt 2 NH4Cl SnCl4
dec in 3 pts H2O —
above may not work as Sn Cl2 dec
salts by NH4Cl nor hydrolyzed by H2O.

Tin is like Bi [illegible]
Easily goes into [illegible]

Carb Calcium is better than Ba for Sr
Strontium carb Cl2 has no advantage
that the precipitates crystalize
are free of [illegible] & [illegible] from
Ba — Ba Sr 2 H 3.00 when CaCO3.
10000

Soak 7 19 Carb K or Na according
must Sol 12 hours then wash 2
quarts dry Soak Conc CaCl
12 hours —

also Rev Soak CaCl 1st 12 hours
then wash [illegible] dry — Soak
Conc Carb K —

Barium [illegible] Crystallization
Impure [illegible] —

Heat formation Bi Compounds

$Bi_2O_3\ 3H_2O$ 137740

$Bi_2O_2\ H_2O$ 103050

Hydrous of Bi_2O_3 or $Bi(OH)_3$ [illegible] with water it forms Metahydrate $BiO(OH)$.

BiO is a compound radical "Bismuthyl"

KOH strong precipitant for Bi salts

$BiO(OH)$ which loses H_2O [illegible] easily when boiled with KOH. —

Group. Soak 10 mins $BiCl_3$ H_2O [illegible] acetate acid 1:1 [illegible] soak Cold [illegible] — wash cold — dry in Cold [illegible]

dilute [illegible] [illegible] all cold

~~Bi~~ Group [illegible] [illegible]

200 [illegible] $BiO(OH)$ —

dilute [illegible]

" 1000 [illegible] 1 gram [illegible]

" 500 [illegible] 2 gram [illegible]

" 200 [illegible]

also 2 gram $BiOH$ no $LiOH$ —

dilute 2 gram $BiO(OH)$ — 3 gram LiOH

" " 4 " "

Use $BiOCl$ gram [illegible] water on $BiCl_3 H_2O$ then dissolve [illegible] 2½ gram — KOH [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

~~See Wheel [illegible] strong [illegible] process [illegible]~~

~~See Weber about [illegible] salts in [illegible]~~

Nitric a 1.2 S.g. 32% [illegible]

40 drops 1.77 cc weight 2.1426 grams

Wet acid in 40 drops 0.7768 grams

~~[illegible] Bi [illegible] Lake acid~~

~~Wed — drop of acetone Bi [illegible]~~

~~Tone ½ ½ strength —~~

~~Made 2 [illegible], Wash —~~

~~Acetone soak KOH [illegible]~~

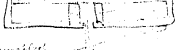
~~Wash —~~

[illegible] change sulphuric [illegible]
200 flow of new [illegible]
put CPS in a [illegible]
affording the wrap
also [illegible]
also Mix of [illegible] Glycerin
to Nitro [illegible]
also - Carb Sir
also in Chromic [illegible]
boils hot give Chromic [illegible]
in [illegible]

Heat [illegible] [illegible]
[illegible]

also [illegible] with [illegible]
[illegible]

Cutter [illegible] [illegible]



duck [illegible] [illegible]
[illegible]
[illegible] (Stopper -
[illegible] of [illegible]
[illegible] [illegible]
[illegible]

Dry in [illegible] [illegible] Bichr
[illegible] [illegible] [illegible] Gold
[illegible], test [illegible] [illegible] 2.
[illegible] [illegible] 5 grm [illegible]

[illegible] 175 cc
[illegible] 2 grm Bichr
with [illegible]
[illegible]
Heat [illegible] 2 grm

[illegible] cc [illegible]
in Heat Rot [illegible] Carbonate
[illegible] 2 grm [illegible]
[illegible]

Pour 2 [illegible] [illegible]
[illegible] [illegible]
Connect [illegible] [illegible]
[illegible]

[illegible] 1400 Bi
50 Run [illegible] for [illegible]

[illegible] of (washed) [illegible]
[illegible] and [illegible]
[illegible] water Cone 1/2 & 1/4
C P [illegible] =

Run 30 [illegible] KOH Cell [illegible]

[illegible]

[illegible]

[illegible]

[illegible] of [illegible]
water =

[illegible]

[illegible] Precip [illegible] NH4 - [illegible]
Wilkins [illegible] then wash out
KOH [illegible]

[illegible]
KOH [illegible]
[illegible]
[illegible]
[illegible]

Take Colored film, shutter
with Colorado [illegible], & use 3
pictures for each wavelength 1 -
run 60 per sec -

Precip. 1 oz Bismuth hydrox
wash well heat KOH -
wash free press in button
put in Ni frame & see if
its ox & reduced by
Current in KOH - 1e of
Conductor when ox & reduced by
Current -

Bypr acc of potassium Sparkling Pt'ments
prepared 2 bottles filtrate in
[illegible] — bottle 2 boxes 2 bottles
clinical sent — bottle 2 clean 2 leaves 2 sets
for all observations [illegible] — BS lumen patient
Cement may [illegible] or addition
specially ground Cement.

Dry dry 719 in $BiCl_3$ NH_4 Cone
in fur seconds only no water right in
KOH —
another dried [illegible]
bottle — $BiCl_3$ acetone — dry Nov KOH

Dry 7c SrCl dry then Na_2SO_4
" Baal " "
" $BiCl_3$ NH_4Cl Cone
" " " 1/2
" " 1/4
" Cadmium Sulph sol
$MgSO_4$ then KOH —
Uranium Mg then KOH.
Sulphate 1/2 then KOH,
$BiCl_3$ Acetone 1/2 strength
" " 1/4 "
" 1/8 "
Bi Nitr 7c in 21%
" 21% 7c KOH.

$BiCl_3$ 7c in Sulphuric Acid
Chloride
Chloride

175 cc 21. 20 gr to Ammonium chlor
in A boil 719 [illegible]
719 — boil water only
719 Boil 21% 3 grams KOH.

$BiCl_3$ dec in Ether — alcohol etc
Bi_2O_3 sol Ether made by adding powdered Bi
to equal parts of Bromine + Ether. —

Sodium pyrophosphate forms double salt with Bi
Very [illegible]
and to $Bi(NO_3)_3$ sol pour the Bi would be [illegible]
No pyrophosphate of will [illegible]

Fuming Metallic Bi + hard w'lube with [illegible]
just no of strong green sol results —

Redissolve the $BiCl_3$ acetone then add,
fresh $BiCl_3$ acc of it dissolves again

K Perchlorate insol — put a Metal perchlorate
in green then dry + boil KOH, then leave
K perchlorate in green

Dissolve in fine charge Hot 1 pt Bi Sul metal
+ 2 pts Na_2Thio_4 plus in fine c c H_2O.
The entire sol is poured into this fine of other Ethy
of gray is estimated with then + KOH
added a pinch of K salt is given no
other known thing does this

Fluorescein — K — used to detect K

group 21 K 2 NaOH 2 LiOH.

Reagentia: Phosphorsäure in
gröbsten u. dünnen Form
ditto in Cell only

Verdampfungsschale

Porzellanschale C.

Bodensatz in Cone beob
Zuerst K

ditto
Grün in Hypochloritlösung K, wasch
Grün KOH Phosphor Bodensatz Yellow
Biolyse in Cell only dry then
Pot.

Bodensatz K blanchen
K Metaphosphat
K Tungstate.

Bodensatz ~~[illegible]~~ 3 or 4 times for
Precipitate in water K, then dry low
heat, wash Cell yellow dry [illegible]
in general [illegible]
Potassium oxide –

[illegible] Lake Hydrate 1891 [illegible]
Brownish Coll Ppt [illegible] every
time [illegible] Coal on [illegible]
[illegible] was exposed [illegible] on 27/1
[illegible] KOH [illegible]

Brown [illegible] 27/1 2 [illegible]
[illegible] Precipitate [illegible]
[illegible] 21/2 [illegible]
[illegible] glycerol [illegible]
[illegible]
[illegible] do not decompose
K Nitrate

[illegible] Ge [illegible] Ppt [illegible]
[illegible] ~~[illegible]~~ [illegible]
[illegible] KOH.
[illegible]

[illegible] will use also [illegible] group [illegible]
but use weak filter, strong [illegible]
[illegible] coarse.

~~Put [illegible] about [illegible] fine coal~~
~~[illegible]~~

Take one of the medium Br groups
[illegible] giving 1320 about a
put in 27% 2 KOH & run
that —

Hermitage make 2 Reg KOH [illegible] 21%
2 12½% KOH [illegible]
2 21½% " 2 "

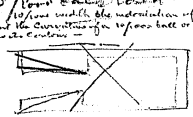
[illegible]

Put up group of RC grain
where we neutralized the KOH
with 27% KOH & LiOH —

Prepare NiSO4 with submerged
Dol CaSO4 - 20 Ni well
Combine with Ca to form the [illegible]

Mention 210 Fahr
Mould heated 230 @ 7.45
3½ mm coal diff 1½ H_2O 2 m air
must have quick chill
Wash water for castle or mine
Take 20 mm coal — run
Gray surface on account used get
quick chill —

ask Dyer of he polished
Use 5/1000 groove —
10/1000 each [illegible] —a record
with a 10/1000 width the indentation of a punch or
change that the curvature of a 10/000 ball or butter
will follow the curve —



Record moved paper
Use Eylewism co water go out

When Dr[illegible] gets CP accions make Cone
Bicly or ½ Cone soak 10 min — weigh CP acetate
~~punch [illegible] group so about 18 hours~~
then wash 3 or 4 times decrease —
Drop ½ Cone 7/9

Hooper ~~Try probable on how~~
~~& run hot Carbon acc. to~~
they go off when hot

Dyer about securing a
dealer selling Trade Arnold's
Records — Look up other patents
making Alc.

Why would MnO be useful for
Leland. Back a lube with
Precip MnO — charge fully
& discharge with Zinc —
KOH — Does Mn would form
Manganate possibly would
Reg Silicate K to help out

Permanganate of Manganese
would be also & Hydro Manganic
acid — Precip Protoxide of Mn by
permanganate K —

Try get rid of odor in BS
Try Fullers Earth —

Holland ~~find out~~ with Copper
Electrode if non causes low
Cap on charge of cell Hot —

get some new process Green
initial Manganese Thorn & Bank
Packs on BiO_3 decline with
Hg_2Cl_2 = also try Hg_2Cl_2 in
acid solution & BiO_3 decline
alone no Hg_2 —

Put some Reg $LiOH$ on Reverse
Hot test = Litho Bismuth &
$LiOH$,

Hooper take off the 1st
group that had Bismuth
only in Electrolyte &
run it over & off without
changing liquid —

Make Groups $BiOH_3$
& fill pocket into mass
with [illegible]

an intermediate ox of Cu but
CuO & CuO_2 is obtained by heating
CuO in KOH or K in the Chemistry
~~lab~~ Hallund – Lehrbuch was plate

Suggest to Gilmore that Reg
advanced ~~but~~ a complete of
Prelude Reports & a brief form
Eng Journ of Lithium formula
to order from –
perhaps Fronatis

Speak Hooper Blors in 60x
unused books. SB an form
proof at Phoms office –

Try group of in 1 gram Bi OH mixing
2 KOH & 2 grams K phos acid –
Lutz makes Bi Sulph

also group Bi OH hydrated group in acid
from Hydrate Bi with chloride K –
dry cold – use 2 grams in Coffee

Try group 3 grams
K ambimonate in Electrolyte
dell. 2 Sb + 2 B_1 2 Li_2

also 80 mlg Phosp
50 " gold
~~250 mlg~~
150 – Potassium
150 – Calcium
150 – Lithium
150 – Sodium
with without gold –
group 5 Rings 6 7 of rings
group 719 – 1½ No 3 acid –

also 5 6 7 8 mlg
1 1/3 Tin 33% 9 grams KOH to
bust – new ~~[illegible]~~ old
tubes sent with 1 gram Lyon –

Wacker special iron packed for
long tubes 20 cts ea long or tubes

Fred Gill Roll 719 with No 3 flakes
90 + 10 + Iron wire 129 – 8 + 15

Look Tubes NCP Bichy Acetone dry
low temp nonaqueous while warm
in boiling 21% K to produce
anhydrous mixing

Precip Bi Nitrate in Conc. LiOH.
see if soluble in H₂O
filter off & evap solution then
add water see if Bi ppt
also KOH & BiOH —

group 1 KCy 2 LiOH 2 K

XYZ. Bi Cu Li connected. Bi breaks
down into Cu & Bi. Cu to Li colour
phosphorescence comes from Bi. if can
find a element try 2 mg in
dry photo salts —

Try group 2 2 CuOH 2 BiOH.
2 LiOH — in Electric light —

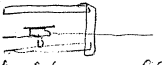
Group of 3 4 mg in the Electric light
put ½ gm each of Antimony Sb, As, Sn
Li Bi Cu Hg Cd —

Another group same but add ½ gm
Zn Pb, in addition

group with BiOH in power &
CP tube grind into powder

Dell's CP Ni Co with 3 grms
Bi O in Electric light —

Debbs & Walth



patch by use of ball on
weight pulling wire
Mr Chen —

Walter Miller to record a loud
xylophone at 200 & 240 — 4165 Rey
make measure all on one cylinder

Tell Walter Mr Grant

also chilling mould more
to harden tube that make
depression & the back regular

Tell Walter try ball expand
on 35° back —

Dry green [illegible] $NaSO_4$
Nitrate Ba $Ba(NO_3)_2$
washed + not washed —
Long + short soak —

Soak several times Conc ?
" " do in Nitric Alcy
dry & ignite then KOH
Work free + soak more times
till fore closed —

Walter Miller has the fine graphite with new way to prevent its burning —

Try new double Ball Cover on Xylophone for urns 100 times —

Lons All - Get list req records + new records
4 buy Mercury Fragments —
1 Dip Cellulose from Urs —
2 Or by Nitric acid —
3 " Aqua Regia
4 H_2O_2 - Hypo -
5 Chl Sulphur in dry solvents
6 Vapor Sulphur
7 Iodine - Bromine in water - water + the Vapor
8 KOH in Alcohol
9 Dip cellulose
10 Citrate or Acetate Ferric. Mg of Ba gummy
11 Silicate Soda (Balsam, gutta) gutta
12 Magnesium —
13 Cellulose on $ZnCl_2$ process Alcohol
14 very much boiled Urs —
15 Cellulose on Cupric ammonium —

Lying of the Al W with - blank with $CaCl_2$
then — Cu then plate Cu + strip from mold
mounted —

Lons All Hundred Records Continued

16 Permanganate K Ferricy - Cu Hypo
17 Sulphi molybdate Magnesium + Vanadate
18 Summer Vanadate
19 potassic Vanadic Oxalate amorph Vanadate
20 Vanadate Sodium Vanadate
21 Magnesium
22 Chromium
23 dip BS or Resin Very thin then graphite
24 Tetravanadophosphate Sodium heavy Cu Alcohol long copper
25 Acetate Chromium or citrate —
26 Gelatin + chromic + Light
27 Process $Sr CO_3$ against [illegible] process
28 dip rubber Chem Chl Sulphur in Benzene —
29 Process in Immersion + heated 150 for Vapor Sulphur etc — also at 150 wrapped with Rubber containing $Sr CO_3$ or powder — 600 with or powder —
30 Ferricy Tin Zn gelatinous — Formate Tin
31 Succinate Lead gelatinous Oxalate
32 Amylosulphide Mercury gelatinous Hg Sulph gelatinous Sol
33 Silicate ammonia gelatinous

1,12 Al W with about Carbon Chromium in sheep — shells repeated ball
[illegible] —

Bell Richardson [illegible]

group Calcium only
" precip Sulphide & water only

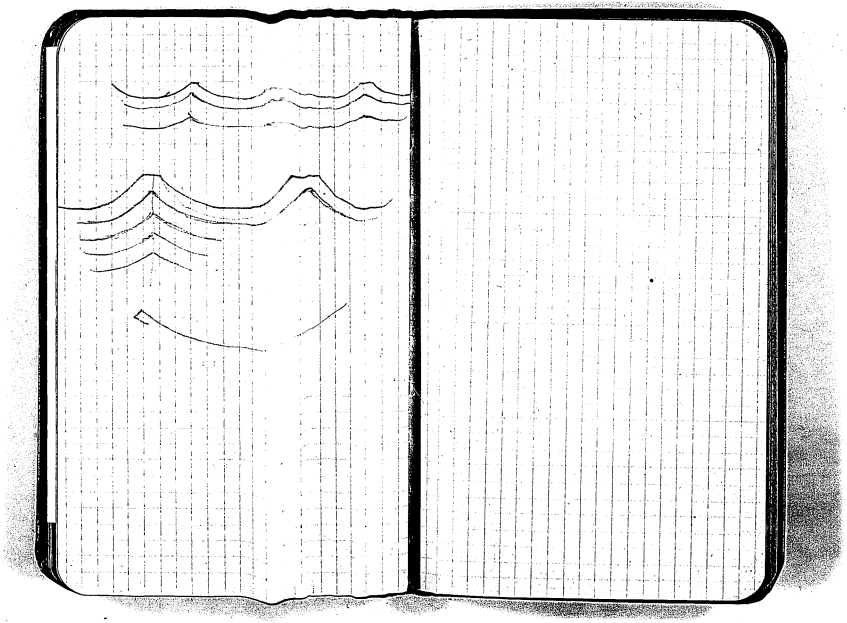
" powdered Barium [illegible] through
150 mesh —

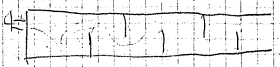
Chromate Ba [illegible] through
Chromates) — [illegible] on the [illegible]
1st then the KSO4 [illegible]
CrO [illegible]

also Iron St Chr [illegible] Ca CrO Mg
Zn Pb [illegible] K2Cr2O7

Green crystal Ammonium [illegible] & dry
then Sulphide [illegible]
St Cu Arsenic [illegible] heat sol [illegible]

Make Chromate Hydroxide
Sumptales Arsenates Borates
Aluminates Ferrates
of the metals [illegible]
boil in Ratio wash &
use alone in [illegible] with [illegible]





average week ending Recorp. for any To
January 1st 464 000
average last 30 day 538

price Pet Benzine 8½ c gal
BS&Z1 ton Bayonne —

Old Bi pocket

615

	to V	Milamp gram No 00	Milamp gram of Mn O_2	Equiv Gram Indic
1% Bi_2O_3	995	195	[illegible]	
3 "	640	257	250	1625
6 "	675	290	263	1709
9 "	720	309	281 =	1826
15 "	700	322	273	1774
30 "	480	251		

3.2 gram max 80 min 20 grams
all return 21% — least is 2.81 Milamp gram

Edison Sold fall 1909 6400 ft Lincoln

What RR wing 1st a battery that will make a round trip bet NY & Ch & return 1 day
2nd that will go to Chi & be chg'd in 2½ hours & return to Ny

Standard Pullman Car battery 4000 lbs 32 cells 125 lbs
Engl — 75 9 CP Lamps - light 6 hours Cost
$725. 180 lbs —

340 kilo Cl
2.074 (13.04 —

865
240
36
36
73

2.400
2.000 (13.04 —

2.500
500

1500
500
2.1131 208
16
Cl
258

1000
35
20
70
2.7411
1000
35
20
70
865

350
750
0
0
4
0
7
4
0
7
4
0
1
7
4
0
1
2

135

1200

1728 | 2400 | 14

1728

672

175 −

1300 lb wt

+ Horse

780.00

100

100 ft −

175 780

27

25

5

25

780 | 47

500 cells

12 cells

4 ft 90 (7 lb

Poletratotat

35 210 | 38 | 1.28

120

420

297

297

297

144

144

246

14.1 C

252 gm

35 | 2520 | 72

245

7

15

72

3

105

108

120

108

12

17.8 | 2520 | 14.1

1780

71

120

216

1080

1296

1296

29.7

25 | 446 | 17.8

25 cents

1 gm 1 min

13 min

361 gm

361 | 129

129

361

2 | 150

15 | 361

6.62
7800
1400
1500
1500
8400
605
34
40
1105
140
27
40
84
35
20
2
65
800
185
5000
27
270
175
440
330
590
127
36
32
31
40
E 44 Grd
Sr.Cl. K 804
281
140
117
1440
1440
165
330
2145
2145
101

[ITEM FOUND IN BOOK]

1 = 748780 - oblique shaving tool -

2 465972 Claim 16+17 Twin mch

3 " 18+19 Cam lift

" 23 Shaving knife,

" 24 25 26 27 28 29 + 30 Shaving knife

" 0/- Spring lock end of gate

484 582 Vacuum Deposit V

484 583 Jewell recorder + depositor + shaving tool

484 584 Jewel Repeater

499879 Claim 1 2 Centers - one on swing arm

" 2-3-4 - "

" 5 overhanging shaft + removable Gear

" 6-7-8 "

[ITEM FOUND IN BOOK]

Continued

499879

Claim 19 - shaving tool + wax guard

" 20 Elec Motor - Vertical shaft.

" 21 " Multiplexing winding + circuit control for armature circuit.

Claim 23 - Elec Motor Elec speed Controller + adjusting screw -

Claim 26 Elec machine longitudinal ~~Machine~~ frame + tightener main belt,

Claim 27 Cushions belt platen + frame

Claim 28 like 26 -

" 29 removable feed nut on feed arm.

513097 Detail Elec governor
Do we want it.

622843 - Floating Recorder or Repeater
not floating but do we want it.

[ITEM FOUND IN BOOK]

7/13 209 Expanding Plank in mould

Notebook, PN-03-00-00

This pocket notebook was used by Edison, probably during 1909. It contains notes pertaining to finances, experimental work, book orders, and the supervision of employees. Included are calculations of cement production costs and projected profits from phonograph records, notations regarding accounts to be checked by Alphons Westee, and lists of patent questions to be asked of Frank L. Dyer. Also included are notes and drawings about battery experiments to be performed, including work on the composition and manufacture of components. Other experiments to be conducted relate to x-rays, motion picture film, phonograph reproducers, records and recording, phenolic resins, mechanical amplification, and tints and molds for concrete. Among the numerous employees mentioned in relation to individual experiments are Jonas W. Aylsworth, Daniel Higham, Walter E. Holland, and John F. Ott. The pages are unnumbered. Approximately 110 pages have been used.

NY- Wash
NJ Oregon
Pa Idaho
Del Ohio-
DC Indiana
Va Md-
NC Kans
SC ~~Iowa~~
Ga Montana-
Fla- ~~Nebr~~
NH. BC
Vt Ontario
Mich Quebec
Me Colorado-
Mass
RI-
Conn
Ill-
Mo
Min
N Dakota
Wyoming
Utah

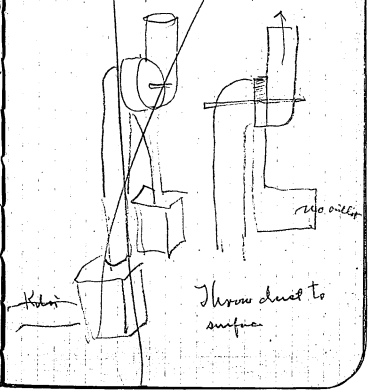
W.Va-
Minnesota
Nevada-
La
Iowa
Arkansas-
Texas
New Mex
Arizona
California
Oklahoma
Ky
Neb-
~~Utah~~
Wis
Ala
Miss
Tenn
~~Ark~~
S Dakota

(00-00-00)-Nd

Holland buy their ~~thermometers~~ Wrotti thermometers put in middle cell & run curve on that L.O.H. with 2/4 6 & gorline L.O.H. –

When got home make 3 on 1 machine 3 on another – 719 718 713. see if get alike – diffs vary the dump & try –

Rogers make 3 big cells – 9 cycle chip – best Bismuth.



Chrys anne 719 723 Intensity 21% smoke in 5% dry Nitr dip in beat Potassium + dec Cr Glycerole — mix CaBiO3 in MgCl Chrys.

find get of the chg Cal'd + dissolving Cal'd solution & in guess & our Capacity Bullfrog has frequency —

The Rockies of Canada by Wilcox — Putnam Sons

Put H_2O in Li tube with 2 LiOH. or look at old Leak see if H_2O guess Collar Cap that,

Try Carb'd mal'd LiOH —

See if success Electric CaBe St will work in lead cell

Regenerate by boiling — KOH — dilute by running in 3 grams of dif sub in 21 KOH. with Reversing.

Dulles Fruit packing Co
Cherries Peaches grown
peaches, apricots, prunes

18% KOH, 4 grms LiOH, saturated with BaOH, CaOH, + SrOH,

Try 21 K Sturmer CaOH,
" " BaOH
SrOH.

dilute 2 LiOH in addition —

Try Reg Mus graphite only rod no weight & then vary or increase weight

Urologh - Try testing with Brunetti sol of cyst & also ROH 21% Various amounts LiOH

Try Fluoride Ca on green in various amounts up to a ray & put in tubes also dep tubes up to a ray

Nitls Bi in Not Chy green only

Dr G anglers gas from a chgd tube Hgls given off in water

See if CaFl in soln 21% & LiOH Run tube with fluoride of def salts - KFl etc (Bi fl in green also)

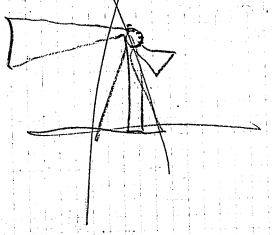
Try Urologh Hot & Cold

Because and take large cell 21% & LiOH run day time & then draw off & determine LiOH residue to ROH

See if XYZ comes from X ray tube exhausted until no spark i.e. perfect Vac - Try Slides Uplists

Try big gather green with Carff + make into tubes —

Turbine Windmill —



1040 Cap ZIK 2 LiOH.

Theory 1

low capacity in cell due to high temp down in cell — Cap is less by reason of higher temp but only part

Theory 2

Green must absorb LiOH. or gradually accumulate from poor circulation or precip out —

Theory 3 unknown unbalance in KOH, + insufficient liquid to give proper gravity

Theory 4 Not enough free ions in ZIKIZ LiOH.

Theory 5 = KOH dissolves H_2O or X_2 + not being sufficient liquid - gives small gravity in Dolly Cim

Peso Bulevar

3434 35 Th ST

Theory 6 - LiOH cleans nickel Contacts —

J B Earl

~~1011~~

1311 Benton Boulevard

Kansas Mo -

Smuggling cure 25/000 mahmudans
guard 125000 sec
- Prog Eng + mahmudans alone
also Carlton Carlton,

Send Bergman Sheepman
Curves near Cell -
average quality best

Stockdick. Theatre april good mighty

group 2 Tuber Reg
719-4h dropped Cove
Lio66, then cut in Kor4
210/0 & Run Reg
Drop part of heat immediately
after legs put in —

Mukesmu Hogpoodlerite
Lithia + ~~Tr~~ 719 —
then make — Lubber
21K also group 21K2 hogs

acidotical H.C. some
oxidized flake-wash +
reduced —

Try Lanolin for army Duck
waterproofing — Dry run

Dobson, also tried the aluminum chloride
Hilmers mixture could not get — could not
jobber to fill his order for more duck

dip A 4 in Cupric SiO_4.
dry — dip again & dry
treat from CO_2 then put
in 2% K silicate SiO_4.

Ditto Run — Cupric SiO_4.
then change sol & put in fresh
cupric SiO_4 run again
+ then 2% K silicate

Do above on little tubes
1st.

Stick Duck to cloth backing
by BS also Fabric
Viscose — Duck coat
of BS on web belt.
ditto Viscose —

Try Hypochlorite of
lithe, Sodium SiO_4 on
7/19 —

plate Bisulph on Nickel
flake — make 3 cells

RH Beach #2 Broadway
Elephan 6158 — Broad
Rice Bro.

Height little Drawn 15"
width — 6 =
27" for 8 cells new Zn
new Ag =
wt 8 cells 116 14.5 lbs

get several varieties of Grapes from Foote & Cadellon above Weber Coal —

Try Sulaloing on Bags do Belting — get some Resin over

Tiles — see if Cement wash Colors by Aquinuts red will work — 1, 2 & 3 Coats —

Reduce chp Gold in Solution to get gold powder — Sylphono

Flake not oxidized Hydrogen only water would do — Iron + some non with Sulphide in it to make H_2S mix with the H_2 to Sulphuring the flake — make Cuba —

also some strips Pyrite Coal which unto sulphuring over

Sulphurize some film by H_2S or H_2S, dry & reduce in H_2 furnace —

When I make the Bi 719 723
Try an analysis for % of Bi in bath —

Try portland Cement & mixed for Casting iron, 1 to 4 Coarse sand plenty of graphite — Faced with graphite - Brass or other Casting Try —

Cement Cook stove -

Cement furniture, make smooth slab & see how it varnishes with Cheap Varnish & colors, also mottled, all varnished, Make some more soft slabs to Experiment with —

find out how each Enclosure when Torn with Oil was made kind of grain & No of flake —

Soak Felt 5 min Hot Bb. Cut open first thin - Soak Felt thin -

Get some Bi Salt & see if Salicin will get it into Felt, dittto good Plating -

Dip 3 bad ni pockets in $BiCl_3$ Acetone dry bak KOH, dry reassemble — dittto 3 same but recomputed all r — 1 gran dilOH — put 3 pkts for same grid up without dry cy (b — & 3 Recomputed —

Unsaponifiable part of Lanolin to dope Bottom of Cells possibly seam

Bringing flake in sulphate of Soda, found in which cannot account of K sulphide is discovered only trace to sulphurous anhydride also passing H_2S over Ni_2O_3 very little ~~trace~~ — also boil in Ammonia Sulphate & put in Hydrogen tube before it Carbonized & passed H_2.

Ni prepared & dehydrated slowly in Heat Nitric or aqua Regia.

also pass H_2S over flake just fused the H takes off S over, but Ni & H has no effect on Ni S — passing CH_4 Sulph. vapor at in dry state — Tube & flask appear H_2S over it

Try passing Dry ammonia over flake — 800

Ditto Carbon Monoxide — at 800

When oxalate over flake dropped in Ni film also in a [illegible] see if [illegible]

Put nonoxidized flake in red hot Cyanide & cool very gradual to get Carbon in

Dilly flake at 800 pass City gas — also pass HCl dry

CO_2 gas, Heat in Vac

In ammonia Strong, calls, SO_2 only use cycle in to Clean H. see Badge

see if Baldwin or [illegible] miscible with Mondon also if mixture miscible with BS

Reduce from Nitrate, Cu B, Ag on flake & make test cells

Dr'l about that flake NO_3 + 2g flake H go for [illegible] for [illegible] delay. Use test Cock & recover 2 cock test & give him

Holland Revenue at low pressure some of the flake tubes that keep low capacity after 100 pounds — also, set new tubes revenue low note before running cold — also new tube Revenue in KOH 12% cold also Hot before running — also 21 KS absolute pour out before running cold & use 21 K/2 KOH

Select several old groups that have got off revenue long — see if can get back

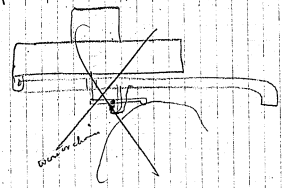
Daily pour Dry HS over flake 800 — also Nitrogen

When Mallo about putting gypsum f.s. — & Rotating Adjunct —

Dilution vapor sulphur 800 deg flake CS_2 vapor —

Try flake in Mallen S low temp dumped, then dissolve out S by KOH, or CS_2 — Nil

Holland Revenue pocket cell in Strong 12% KOH Cold at low temp —



Mix Cement grade 3 or 4 or 1/2 and diff Hot water & pour 3 steel collars, Screw through to remove sand etc. then add red lead & try collars on paint —

Take 3 tubes some bad some force cannot ring on

Tubes some bad Gots 1/16 Make thin dealer & put in springy old tube to make Circuit Called —

Fred old - Wells - hole 1/3 Mornin
plunger put up - cautin on
pump around it —

Rough then get Koh out
unbalanced

Take bad tubes out put new —
M Sulfate + Chl Iron
remove + wash well +
boil in KOH —

ditto new tubes —

Tubes gone bad - work out on 3% KOH
for week + try
ditto boil in 3% KOH —
ditto drill 1/2 hole of core in
tube O Ring —

Rogers open a poor 5000 mile
Cell —

ditto wash out in 1 o/o KOH
drop put in Dark M Mg Sulfate
One tube a certain time + other
longer time, low density Cement
let thing stip agitated of work without
tube KOH

Proper get a long lasting tube
Rogers manufactured that run out
90 Feels and Capacity

Well, make an open up
with Bramith opposin
No flange —

Try cleaning old flat pockets by using
Sulphate Ammonia Use as anode
then Cathode a-long - If OK
Try plates from bad cell in M MgSO4
also try Dankes M MgCl chemicals so on to
get strong solution

For paladium bath lot prepare
the Canvas with Uncle Coat
Balata gel coating then lay
on belt Canvas hot flat iron

Perhaps coat Canvas with
Sol of Balata on gel before
putting on sheet Balata —

amount of B. metal/on 10 lbs
green 734 for Bow Jolts in
18.86% Metal B. Ni 47.85%

Possible Savings 1909

		30
80 lbs Coal		25
18 c Steam Shovel 1/10 3	30	15
40 lbs Chalk including sand	8	6
Babbitt Bolt patch	25	10
Brumber	5	3
Rust No 1 Dryer	1	0
Steam shovel Rank	10	0
75 more cars	5	4
Increase output Rim to 750 M mill	30	15
Gypsum	5	3
Use Bucking for paint	40	81
Quarry at Calumet	20	
	209	Costing
Air compressor	8	
	217	

Oct Costs 520
209
311

add 2c Dispensing Mines
331 c

Good bonds will pay 12%

Can soak the pockets 2 or 3 times in McQuinn's sulphuric & get it in Crystalized form & ought to do the work

Patent Kirsch Shifting Bypass Knighton
" Hot air & high & low press Condensing
" Bypass Lt Dr & other gas for mines
" New Bag
" Babbitt & removable cinder pieces & patching
Steam & Aluminum
add Dryer of 1 Patented 1 -

719 to 723 - put in 2 Lion 21
& Reverse & Rog on Thom
Run very 5 times

add Danny Miller if amount owed me by Miners Co
Notes - If they are removed promptly & refused evaded
Notes allowed to question when money paid

Try am Sul Copper with
flat plate see if Copper
inside — also
Soak in the am Sul Cu.
3 times & then deposit in
NH Sulfate —

new
In indicating use
1/4 inch rubber & also inches
1/4 of the battery —
also 1/4 with trays on
Rubber balance low
inside —

Get 12 plates old pocket cell
Soak out & only leave
enough KOH to prevent rust
then assemble & put in
21K 100 grm LiOH.
low water level —

Possible Cause of Lead in
Peralabing on 200 lead in
Sapphire tips inside

Try Jubilong Clear Jubilee
Bobbin in Vulcanized Fiber

Rig up 2 Fe & the old pocket
plate with Bismuth — for
Holland to test — also
another, to wear before
charging —

Try clean old plet with
Strong KOH, also 21% 2 LiOH —
also with little Bichl Hg in
Sol to give Hg amalgamation

Clean an old plate in
Ammon Potash Sulphite &
Hollands Rain —

Cleat in hollow groove

of 4 mm that makes peculiar mag
62 due to plating falling off
or lumpy graft - Cause
1 = Lumpy Graft
2 plating pulls off of projections
3 - Wax to make the moved indirect
surface due to graft - plating -
4 Remold the mold
5 Twist or vibrate in reamming
6 Sapphire too dull
7 Nickel lumpy in plating - moved not cleaned
well enough -
8 grafting copper plate granular as it
proceeds to finish -
9 Made cleat seems moved well - graft
clinks in unplated The Monodur Ni
plated well then -
10 Sub Magnesium generator Monodur good
11 In Neg Monodur wax not cleaned out
well
12 not strunk long to pull not without stretching
13 Dont collodion on records after moulding
as they are sticky on surface a-being
Hard & sighing dont force them in wax
flinch but slight up -
14 - find wax holder

Try old pocket with $HgCl_2$ in it
in Solution of Chloride Magnesium
a Magnesium Chloride -

also $HgCl_2$ in pocket electrolyte
of $HgCl_2$ & Magnesium Chloride -

See Dodge collinch in about racks
a solution for drying flinks

also list of results with trial cell
def flinks -

See of Bi usually oxidized in 21 KOH, also
21 K 2 LiOH.

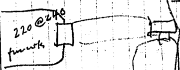
Daily plating not of flinks with Bismuth
make bad cells - some thick some thin -
Can polish some acid Bi or break a
crystal from large chunk -
use Bi of Nitrate sol - various strengths
of NH_4Cl - crystal & Graft -

Bi plated flinks + Ink plated chromy
with Bi - Well made 2 [illegible]
cells -
dilute with Bi green & Reserve cell
to reduce to medium state

Dip Reg tube in $BiCl_3$ NH_4Cl + then put in Electrolyte of NH_4Cl making tube Cathode
Ni anode ditto Magnesium

Make 2 tubes with Bismuth green + reverse at 30 Mil amp in 21 K 2 LiOH for 6 hours to deposit Bi electrolytically as it probably slightly [illegible] ~~also~~
ditto with little $HgCl_2$ in tube to make an amalgam so green will be coherently plated +

Holland see if the endurance test cell with only 5 grms in that run 145 Elec will [illegible] of 105 grms LiOH is now added —



1½ mm Ni
2 " Cu

Copper 75 @ 40 Val 200 [illegible]
Ni 85 @ 90 " 200

Current of 200 amp on all [illegible] at Res used

Teacher [illegible] school Explain circulation blood
Stand on head blood [illegible] in face red
why if you stand up [illegible] that [illegible]
[illegible] Cause [illegible] feet aint Empty

Judge why did you strike the man
Prisoner What would u do judge if a man came into ur grocery store & asked if he cd tk [illegible] 10 of your cheese —

Topic film — 6 or 8 things on 1 [illegible] ft of film once a month

for instance —
Bread line —
A Forrest fire
Taft at golf
The RR accident at ——
Storm at Atlantic City —
Night Riders on way to Court
Elec [illegible] for 1 minute —

Edm
[illegible] see if Stearate of Al as precip in water + then [illegible] put over [illegible] will dissolve —

Try Acetate Al in Hot Stearic till acetic acid gone

Put Hoffs ~~[illegible]~~ on
wall in old tube to
resistance in Diff 2 K21 —
low rate. long time —

Clean old pocket by Hoffs on K24
Electrolytic — by chemicals —
clean a 500 mil tube —

Test Electrolytic for small cell
after 1 2 3rd 50 Run
for L.O.H —

723 stiff mixed graphite
8910 to 8920 RA numbers
see Hungar [illegible] Now
longer working —

Retest unkeyed surface
wells Japan 0731

Lead 33/0 + 10 — no injury of
Electrolyte or dead connection
3.33 per well
E 7 34th "
E Renewed at 500 3.33 per well

Will the dead lead 2 yrs
without Expense — if so
Cheaper than E.

E Station 20000 KW hours
9 pm till 5 30 am —
1c to 1½ c KW hour

Francis Lincoln Treatment Co
Lab 126 W 31st St New York City

Daily — put Nitrogen at 1" — almost pressure
and put lamp in tube — get high use Edison
bulb — run lamp high 32 CP — if good try
other gases —

Tried oil press green in Ni Cup
Twice as thick as dup. shave off Hush — put mica disk
over surface 20/mil thick with 1/32 holes in it
clamp it — put mica Micro in first disk in
K24 21 + change —

Wallin make 3 Twins each 719 723 734
50 30 flake — but 36 mil green 6 mil flakes
ditto 50 mil green 6 flakes —
Change: ½ rate in 21 K24 3 L10H, discharge hot 130 Regular
Change 00 to fresh 21 K 3 L10H — change
again ½ rate cold + discharge hot 130 at reg rate
run 3 times cold + put on hot test.

9/4

Rogers cut flake 1/2 in width + 1/4 length for 110 test tubes —
Make 2 tubes 719 723 with the flakes

2 tubes 708 30 f
look at the flakes that were crumpled by hand
Heat run 30 secs for 1/4 oz

Take bad tube dip in Cone 5 f dry then in KOH wash, dip 1/2 rate dry hot twice, then run reg

723 in plain 21 K dip 1/2 rate cold dry hot reg rate twice, no Cone. 1/4 time
723. dip 1/2 rate - 21 K 60 H dio hot reg rate once dip twice

Gen with Li F K + potas very little sodium
" " lithium phosphate more
Clean out pocket in 708 by current
Dally make Co 10.5 Ni by current
Grind up 723 in 33 % to much, dry + penetrate
Remove wire from 8 dip and do 1 soaking out dry in tube remove + broke new tube
ditto flat plate

P ask Wallace how much paper we discontinued

Buy dog books like this

Ask Wallace if he can get me old drill manual

Use Port on Isopelone

2 tubes 723 without Wake - dip 1/2 r 21 1/4 K 104 dio Reg rate hot twice

Holland Reverse the tubes dip H dio C & do just opposite for same number runs

Holland run old Rogers Cell 21 K 60 H 1/4 rate Cold - Very cold dry dip hot, do it twice

Record that dip which of 708 719 723 734 with 16.8 % Pb in part in water softest (want to record) 708 next 719 next hardest 723 + 734 Pb scarcely altered No Pb holds it together — in 21 - 708 3 min allow 20 seconds

Pb 734 tumble the other pieces 5 minutes flat (15 pieces flatten —

2 tubes 723 dip in KOH 2 hours washed out in water 30 minutes two changes keep from washing dry 3 then dip N by 4 run into hot air dry twice 1/4 rate cold twice 1/2 rate cold twice in light

2 tubes change 1/2 rate hot wash out dry. Into Soak tube run 10 hour dry dio dip hot reg rate twice

2 tubes 723 dip 33 % H 4 1/2 % hour remove put 21 2 % dip Cold 1/2 rate dip dry hot reg rate, twice, then run reg

Dip 2 tubes Cone 1.04 12 % - K04, 10 min remove + put in 21 K 2 1/4 1/2 rate Cold dip dry Hot, twice reg rate, Run Reg

Dip get Wallace Green Mass from attend

Do Xge - dip 1/4 Reg plating Nickle
How about - Brass - Nickle —

Ask Scott if he will too weak use steel 1/8 shell to support only

Speak to Hallain about EMF nervous cells
on charging - if EMF certain substances are
changed by charging the same and is found
lessened in nerve cells, then may be a
particular EMF in dry cells and that best
(i.e. 1.67 V or 1.65, any thing above that
forms second any reaction, 1.67 in discharg
of KOH, if Cornish work the
fluorine ions in nerve cells then permits
higher if charged and altered secondary
reaction —
try fluoride lotion in pores

2 tubes 423 chg 1/2 rate / 21 K 3 LiOH.
discharg hot reg rate — then charge
again 1/2 rate remove from
charger + dry 4 hours on
hot plate ~~then~~ on piece of
glass board on plate, then
put back on cell +
discharg then run reg

Drop test chg 1/2 rate
remove from charger dry
~~on~~ glass put back
disch hot reg then run
Cold reg

2 tubes charge 1/2 rate / 30% K 3 LiOH.
Cold — soak out in weak KOH -
6 or 8 hours — put — / 21 K 2 LiOH.
soak 5 @ 6 hours — discharge
Hot — then run reg

2 tubes 1/2 rate chg 30% K 3 LiOH
take out of cell dry on glass
on hot plate 3 hours
put back in 21 KOH 2 LiOH
& discharg hot reg rate
then run reg — twice —

2 tubes 713 chg 1/2 30% K 3 LiOH
give to Edison after chg in 30% + 3
he will put in 21 KOH 2 LiOH
+ wash out — then to be run reg
in 21 K 2 LiOH.

2 tubes chg 30 & 3 1/2 rate
soak out in weak KOH ~~[illegible]~~
dry on glass on hot plate
give to Edison put in Ammonia
for four min — dry —
chg this reg

8 tubes 7/23 to Edison

of these 2 tubes dropped water 1/2 hour
dried 3 hours put back right in
Control with place. Run Rly

2 dropped water 1% HOH. + dried
2 dropped " 3% "
2 " 6% "

To a clay 1/2 mile Cecil Brook
out + prof in Entrenched Mr Nelly Mt Sally
Hebden alone today 220
When discharges — Run Rly
Dump lot valuable amount coming
in this Sat.

get 3 Copies Conservation
Nov 1905 — get that House in

Hebden now make Cuckoo +
another example in
HOH. Cut away + annealing
to prevent repeat —

Soak 2 tubes 33% heat 220
for several hours dry + work out
ditto Cone 1.0 H. only

See if Dodge has got rocks up
for drying floor —
what block of Cement for new tracking floor

Dyer patent charge + way of
using Saphire on 200 threads —
test

See if that clay seam in No 3
Crown D&HW RR + how wide —

How about standing above of foot hill where
fall of D&W commence. Thin mined Lope 30 @ 60
ft out at 1 level. drop 50 so can work out
level to crack 2 shovels cored about after
dirt shovel 100 ft in —

To Cal Ni felling Machine should
take 8 tubes 9 run 3 times
last time chg cond chk hot to see
if even filled —

If Cant get back the Lava tube
from 5 yrs call — chg chg if
Soak out 195 + Saw it up 7
2 mm mag see p mm w/ soled out

Dodge Rogers Ring poor block
not plug enough —

Remove another 5/00 plate tube
+ Run them Bag + Clip C + dry hot
etc – those could get broke Cut again
+ Micro + Cut good tube for
Comparison –

Evidently dif quickly fr + grosse
Cause a much more difficult Coding
(12) dumping in tube before Compying
Run last Exports on Changing
Conductivity [same fr + gross]
then variations up + gross acts to signify

Try briquetting 60% magnesite
with Portland Cement;

Monell metal for cans
probably be cheaper in the end

Tackle up Tanky catch Ni + Cu
from wash water; –

Cost Edison Chem etc 40% yearly Sy
$Ni(OH)$ – 40 Cell
Cu_2 mix 3d
flat cup mix 40 C

Tell Dodge preferred old plate
take out + dry in Ch 1400 F
Unicle Cam [illegible] mix the
mix + use again –

making yourself amazing cigarettes
for Lincoln Cardinal –

Speak Dodge about test for toughness
of flake –

When get not + flake have
Halland form + run till already
then change full + heavy
Changed 1 on week 1 · 2 weeks
1 4 week 1 2 months
1 6 months then develop
+ get losses for RR salvaged
work –

Waller make tube new
Cut flake not 4 or 5
+ open tube see if springy
etc + on sides –

Ask Dodge How those
Coat Ni with Mg anodes
work -

Try mixing with water ammonical
Bulite - Borax & ammonia

Oxidize iron mould prevent etching

Coat Solution - Cyanide - Carbonate Soda -
Alcohol and Mercury - Vinegar -
Sulphurous acid for photographs

Try fine colored precips - Calomel
in water and Oxal - Formic acid

Mallory - Up at Elgin for Bugs
Suspension test chart

clean mould as Cathode tube -
Coll mill in Ferrous Sulphate -

in testing flake by opening
tubes Charge in KOH
2 hours soak water etc
1 hour - dry + bake

Set up 719 723 Sheared
Spongy flake 21K3Li
after 4 hrs Charge to
21K2Li 8 Rings 10 Rings
+12 rings - 2 Soak

Test by opening tube made
this work before putting up -
devised test for length &
Elasticity for new flake
Springs after assembly to
bring shaft in Strip -

Generally work up Best
surface - Bulite -

after testing flake by opening
tubes Dies following
9668
9754 3 Soak
9722
9716
9710
9084
8628
8727
8805
8822
9172
9304
9373

Gwa 10 or 15 on mast -

Daily take all the Lakes
22 Tal 37 — + use 100 Mulq
Nitric acid + Ulric Quercitrin
Tubes all alike look for 9a -

Tell Dodge to the acam
must build

Co some - Cubes Oxo-chromic
look at mus mall + also
disolve - always see if stuff
come out.

Try over the green drop 212
9716
9725
9744
9722
} important often get flake alk -

also the 180 day
9688 10 hour
9694 25 "
9700 40 "
9710 100 "

Dup 739 Ra to X0 254

dup 376 RA742 dried deep pans

Dup 427 good - but see 723 - also dry 1/2 ml
upper edge

See if Rogers Cubes turn up slimy
always stuff coming out when
put to the want top 10 oz

Speak Dodge about pans no
bad Cubes this and had up stamp

Dup 8787 9016 all hydrous -
then Keep 1104 leave out 1 each time
to find out why it give 900 but
1504 Rum?

Dup 394 408

Hoakes find bad flake Cubes
9708 - 9706 — 9674 9672
9591 9593 — 9586
9429 9421

Take No 12 Bichich dam 30 of
Oxalic acid 1 run 1880 on
150 Ram – see if Length see Rollers
also No 9920 which is 29 of
Oxalic acid only 967 on 150 Ram
Compare rate & stat. cond –

Speak Walter Miller Lake Sulphuric
Singer 22 oz 11 min 8 by get it OK

Speak mason running gum further
in furnace, the heat, but also
pipe & only lose 2 or 4 ft of furnace
or chamber, zone above 9 may or may know.
also position of Compressor pipe to blower pipe

Bridge – Keep new not flake
plates separate

get Data from Dr G on Analysis
Coffee

Harry Cox –
C Shaw Trowbridge Co
Midland Air Cor
Bournewide Road
Moseley

Wednesday
Bring
factory
Nearly

See if comparison of No
12 have swelled –

Reduce some Gas Tubes by
Singer – Soak out sugar and
rollers change 4 hours
Double rotate see how
if on block goes in
isolated of liquors

filament Coated with Oxide
Lithic colored or red
reducible by Carbon

Experiment with 4% of
Manganese in Rubber
to discolorize Cement
like Blue glass or
discolorize

Equinoth feeding tubes

dump grass then flake

1 = then lump lines —

2 = use longer tube in under case
but round on - longer under (10)
more range - more weight

3 use one only green

4 = set green down in long stream

5 - use 24 - 5 flask —

6 Vibrate grass feed —

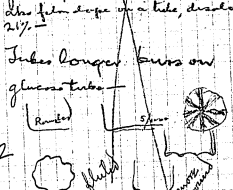
7 try the 40 sec flake it dont
spring back 104 may spring
up + make bad in floor

8 must have fewer grass
less than 7/1000

9 = film dope mixed tube then brads
then film dope on a tube, dissolve out
21% —

10 Tubes longer lines on

11 glucose tube —



12

Moyer - white Portland
or white pumice for coating
Cement —

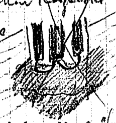
Kaiffer microfilm new
tool - 1 day 2 3 4 5
6 + 7 day under coat
Cloth Blade and
dry steel Bonnell
Sand only 1 to 3 1 to 4

Put hole angle or 16 are lights
10 A 2 each + holding
melt wax for dipping
raises it up
or 2 large blackbirds —
Ferrous ox to make an
slurry + then filler & comp
it hot or blow air thru
for water

Daily use of Monell Kilalles in
vinyl and Col Cinefilm out only

use Keystone, then splash or spatter other Keystone & vapor

Rotating arc



Use splash bracket to remove Molten metal

Charge in Conc Ba Sr alone hot

" C

13 = ~~[illegible]~~ use bevelled or angle ledge for grease so dont come off in dump angle so distribute clear across tube –

14 ditto flake with ledge distribute clear across

15 Magnetize end of plunger –

16 – Magnetize the tube

17 Mn steel mould non mag – use mag on mould draw flake to side –

18 flake 1/32 wide – 1/8 long

19 = sized green – washed & dried & also unwashed

20 tube with .002 film on it, Run it 21K 2 Li after soaking at 160 deg for several hours then cold –

Hooper – take 5000 tubes chge cold then put on hot for 6 hours without current & dischg –

Try Lead cell with Sulphate LiOH

Then the Pb will form an insol. PbO_2 LiOH. & possibly a Pb_2O_3 LiOH. & not dissolve in the Electrolyte & PbO combine with Sulphate possibly come from lead –

Tell Holland about good results of 3 Run 5 at Li + Ba – & other changing to KOH when ran hypes [illegible] –

21 Rotating tamp rod

angle

22 = grind more off burr increase dia plunger – say grind off .002 of to 1/2 & increase plunger 245 =

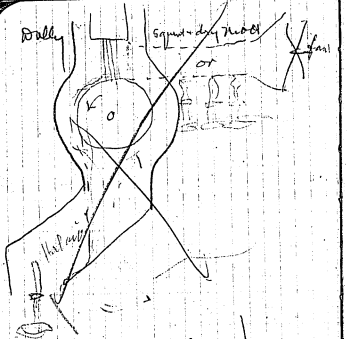
23 Hole in plunger – puff air down when tamping flake only to throw flake to side

24 = Hollow tamp – 1/32 in wire permanent in tube

25 = Straight tube – lap ◯ only but use 9 rings these make perfect parallel – also straight tube with reg lap joint –

26 – Run paper in tube to open seam about as much as 427 open & see what increase inside dia –

27 see if 104 f reduces B. from sol good –



See if possible fulgur can be stuck on by hydraulics or in Vac & heat & then immerse for incubated in acetate cough.
Try bilocular Dry Electrode & Current also emulsion of acetate cough in rectal washing

also Cook weak KOH this
Comb — acetic gelatin + semi dissolve
fumi then acetic Gelatin
Try Vaseline over it — formaldehyde
Bakelite — Gutta Percha — Pyro
gelatin dry as can be porous

Run one in 30% — high charging pts
24% vacc if bath also heat for 6 day
little rubber —
Rogers Oxidizer after plates by cell

Mason — about Belt test.
W&G rock for electrodes bath water or
Drainage for inflating bronchi
Impounding stopping coates
Brush for scale — Nov Bergey

In designing new this follow lines made
Tamp Jolly when the fellow
See Design where Rogers with outline
a pure me heavit Sports.
Design — elec equipment to remove
or A4 red Cost cells —
Wetting respirit — leave out
Constipation

Wear of Sapphire & Campbell's are good for a [illegible]

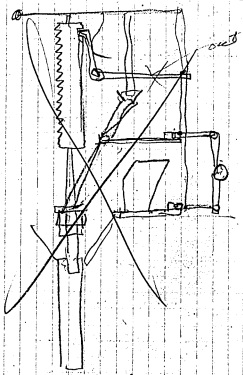
See how Picasso's cor/repados
makes a design [illegible]
for [illegible] so [illegible]
this one - going to [illegible]

on electro tool on [illegible] plat
use a buzzer [illegible]
[illegible]
Nickel will [illegible]

Drill to Sizing 1/4 1/2
& inch cut [illegible] 1"
lay thro - dry in 212 Cu
Bath - for 24 hours -
then [illegible]

Experiment the not of flakes notice
dif between the 2 [illegible] & the 2
worst - [illegible] the [illegible]
strength [illegible]
Crumpling & breaks

John Ott fix rod to [illegible]
to pack in glass tube
& stop other work help me



Get a [illegible] from Hyam
Weber

Change of duty Tues 1/2 rate Cyc. 1.0H Comp
Bar 0H, then dep in Sulphite soda to
precip Barsoy in powder —
ditto after dis. dep — B.C.J. HHCl4 —
ditto in Thunder Na —

Try change dis — Cerac Bar 0H bal
sol Unach 1.7% Bar0H —

Weber have Sulphur man.
test his Crude Sulphur
by Sachsen Cellig Sulphur
or Schwalchy Rabby

Dyer information Burton
Connected his office phone
& film — All Newspapers
Cuttings — advertends Via
Col & Others —
No men employed Varnsow
Exhibitions —
shipments — Exports — pat ent
talk infuti — Also foreign
advts. gramophone Co —

Waller about Electric (filled rod
just beyond recorder) Knife
Safety Razor) but between Gold
& Knife —

Wadsworth John Oil Guild
bench specimen for new record

Hix one graphite on wearing our
respider point —
Weber test wear replacers by
jarring phone — ~~old~~ a dept test form

Dyer wahon of jewelled reamer
& respider put out —

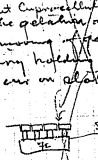
What repels from Raff Face
Alignment & Wear test wear
thickness reg —

Kerm — filler Chem pressure stone
running over to remove
impurity —

Dodge — strips good width
& break with short point
test strength of flake —
also fat out Paper from
strips test repeatedly

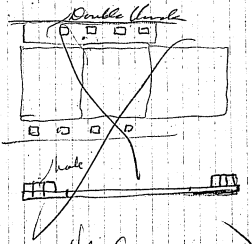
Write Mann & Mizé Naille
Come over get rest of changes
to Washington like problem of
Beachhouse —

See if can get Cupriethylenediamine bath
to clench the gelatin on film
get good removing of gelatin process
for film a long holding down film
by Exhaust air on slotted tables
glass —



When flow over emulsion
glass broken the NO from film before use

Daily Report on Inventory
sides of film which have
are by old film cut to
suit gelatin removers
by H. J. S. O. H. of Nichols



Get some old tubes never used
down in film room
cut open see if Column
Gradient —

to stops Cracking Column
dry some 139 — glass

March 30. Times will in
possibly the bad results
mix with fluids deep
flaking, glaze dry + penny
breaking of Column

Get from Dodge tubes with new
seam — improved

Dyer get from Waylen a
body worn inf film —

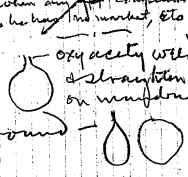
Hooper-Hall with a collar figure
out pressure on lamp in London
based on doing all the work
in 003 of sec

McChesney - up a lady & phone
Monday for stage exhibition
in Evening at house - leading
the young people to run it, leave it
day in 2 —

Dyer = Contour manager to have
some contact with the moderdrum
so that when any competitor
starts he has 1st market, etc —

oxyacetylene with tube
& strap tension
on windshield

to round —



See how the tube worked
that was only happy

NG

Have Mr Fellows McDougall lay out
10/000 Rhodr + nitrate a 2 1/2 Rel
+ 2 1/2 2% Convert a tell worker
show him make second + get
reader.

Ask Dyer ab A Brandt's patent
cobalt present to use
as fuel cost per ft —

qwa Russian Chemist
work on electrode —

Dirty see can fill up
nodes in fabric —

Try 1/2 nitr 3 times then hot. Sat 2 OH
using Cobalt hydroxide —
ditto Hg OH — ~~[illegible]~~ Bi OH —
Cu OH, Sb OH, Sn OH, Zn OH.
Ur OH, W OH, Cr OH, Mo OH.
Cd OH, Palladium & Cerium both cured albumin
from poisoning lead

Try 20/vol rounded 245 dia

Try a thin cloth tube 0033 acc of Crocks with Rec 20/vol rounded 237 =

John oil - work out continuous change - great flake - stopped at Company - also more up time of lamp to get good changing

Rogers flake come off just pure - make tube thin, more rounded - wi to get stiff so don't stretch -

Dilly - get some good Chuck Chow dry in Vacuum - Cultural heat.

JWA speak of fear of long black Cutting Paper - 3 times it should be discarded = sure to go wrong - play 2 hours daily for a year - tubes will come - when probably records will be better

Try Iron Collodion & Fe Chloride in Conc. di OH. acc of Jeo Li formula - it rots too bathing

Try a tube with flake for a week

Daily see if Zinc plate and on magnesium from a solution of KOH & Silicate KOH best proportion - get from Ibe lamp - also try LiOH alone & LiOH with Silicate LiOH -

2 tubes Each 16 x 81 - 1/2 rate Once then change to 21 run to lamp heat

ditto twice ditto 3 times -

2 tubes saturated LiOH - twice - 1/4 rate, change to 21 Run to lamp heat,

ditto 3 times -

2 tubes saturated LiOH 1/2 rate but change twice as long or double changes - also at 3 times then change to 21 x, + Run to lamp heat

2 tubes 1/2 rate with Saturated LiOH & 3 grams Extra LiOH 3 times, Change KOH 21 + Run to lamp heat

2 tubes 1/2 water 3 times —
2 alumina 2 oz.
Empty + wash 24 hours —
2 KOH, Empty + wash
again 24 hours Empty
+ put in fresh 2 l.
Run 6 days that

2 tubes 3 ft 1/2 water
2 alumina 2 oz. with
6 grams precipitated
Bismuth Hydroxide & made
Cell — Empty wash out
put in 2 l K run 6 days
that —

6 ths = 2 1/2 out 2 lb out 1 1/2 out
1 lb out — Rounded Edge
plunger [illegible]

Dyer Dry sieving
Finer elutriated on
Steel end —

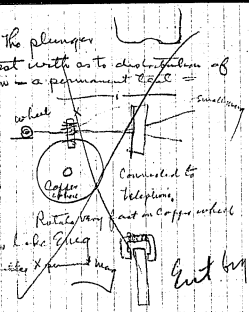
Dyer which is yours
repair pump ball out
also Wroa dia —
Hex graphite on our replas
point

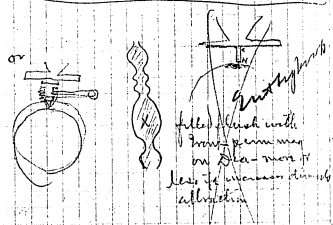
Dilly Dry some Ra needs
with Lot Na_2CO_3 =

Dyer Dalbrer Cohn
Wtf never got out
out rather to order
lost + got this
separator — thus
a person can order this
dealer —

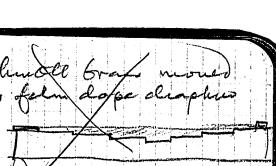
Carry a funnel
with radium
stuck in to
strike cans

Save the plunger
To test with a tr. distribution of
green — a permanent color —





Johnsoll Gray moved
for film dope diaphrm



Make some thick film dope sheet
say 1 2 3 4 4 inches
make up chrom section
stick on well clean &
and a common foil
for film ribbon & stick
Rubber rings on
& get new 4 chrom diaphr
& try them —
Smooth border & large
Vary amplitude by
interposing levers
50%

When get good tube
change in saturated
Barium nitrate def lamp
4/2 a 14 rate output 21 ft

Try Cyanide and plunge
Red Hot 20 minutes or
plunge in slightly Cold Brine

See if H_2O_2 oxidizes Calcium or
Calcium or manganese at sodium sulphite
in my chlorine water - Formaldehyde
Hypochlorite Magnesium - Lime
water -

Try Saturated $CaOH$ $SrOH$ - $BiOH$
$BaOH$ $BaOH$ Thallium OH $PbOH$ - $CoOH$
$BaOH$ $CuOH$ $SnOH$ $ZnOH$.
$MnOH$ and Sat hydrox
without KOH 1:10 the
with 20 time Copper
Chemical + 21 K in
to deep hot - all above
To high and excess of hydrogen
ablation a good action to clg 1/10
minutes

Do the new experiment of
Sat $LiOH$ and Lithium of
1/4 with make again of
21K 27K + 30 KOH KCl
Runs -

put in Al_2O_3 in a cell
in which green is all
combined with $LiOH$
+ $BaOH$ or Sr also $LiOH$
alone -

Write Mallory & Rufus about my
gypsum mined in Genesee Co
NY - at Cayuga &
at Fayetteville - Vein 70 To
90% gypsum with 8% to
10% Calcium - mills are
Oakfield Plaster Mfg Co
Oakfield NY
O.B. English Plaster Works
Oakfield NY
Big Four Plaster Co -
Value of rock gypsum as
1.30 Ton = Lime mineral
Natural -

Make some 7.19
1/2 sat Bi or 9.8
1/4 4.65
2.32
1/8 Bi to be run 1/2
rate Sat LiOH little alum
tubes!
also in Sr + Ba
saturated in solution

Run 18.6 Bi 1/20th rate
in 21 KOH. as probably
does slow NaOH
also see if takes place
LiOH —

Dally to dry finely above
212 colored Daly much
~~colored~~ above less compact
Genesis of wells in
finely divided silica
is great say dry 240 hrs

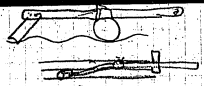
Dally Make some slag dough
in cylinders + platinum crucible
boxes + dry at 240 fahr
also with 1 of NaCarb —

Prove Sulfur polysulphide
Culcanite Vulcanizing Rubber
Try Cellulose Nitrate sol

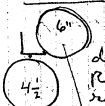
CeO Ce_2O_3 CeO_2 + CeO_3
possible with tubes
LiOH Carbonate to work

Dry the 1/4 rate
Sat LiOH. Pa 5 C
series with 8 Runs

Dry tube in BaOH.
at Boiling to get
lot in 20 hours
put in pitch tube
Saturated Ces with
glass — dots with hot



one record drop another brands it but deeper



drop from weak
Record to longer
record at higher
Velocity

(with hand) off — almost in a
very solid [illegible] —

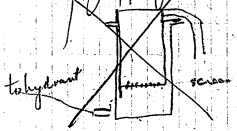
From the duplicated Record which
is to be 2 or 3 times louder
make Master —

guide groove with the mirror point to
guide the groove with — Record
shows —

Long above cut in Florida

When get to Florida get lot very
good French wines by [illegible] to get free
Clay etc — Then try [illegible] to decide w
from Lumber for plaster —

Dolly Jig for flake



Dyer, Walker in + Wilson
2 min thro thread
Double speed —

Rogers proposes some green fines
in big press right mount wrestler

Jakoff

Get from Wilbur the Sonnenschein's Hardness Measuring Instruments & try with small finished the hardness of Reg Bicycles & Bryan & our regulars - then write out -

Boil Montan with acetate of Lead or Carbonate reduced to Metal - Tartrate Etc -
Bismuth salts / Ingots ammonia

Precipitate Bismuth in KOH & then Gold flakes in see if reflundes it

Try Tartrate & lead method Tartaric on in alcohol condensation Shellac -

Collodial Pb / W. Etc
Montan

Daily Neutral Oleate in Montan -

Try Dis Naphthol / 290 parts in 40% formaldehyde - of Ch
Sol Take 170 parts add 95 parts Aqueous Antifermin Shellac

Make Gelatin Emulsion mix Kenwith Aqueous Sol & Castor oil then expelate the Sol with a mixture of Formaldehyde & glycerine

Dilute air water for sol from Hydrates of Ammonia, Etc

Calcined Soda 6 lbs glycerine 1 pt
Red Lead 3½ lbs [illegible]
10 lbs — (be S.G. [illegible])
[illegible] Under the Red Lead
[illegible] to a paste —
to cover sets of numbers —
to avoid proof —

pour Humate Mthy into very
dilute HCl. get finely
divided Humic for
Morlam in place Camphoric

Make some very fine Copper
Metallic by reduction
with Zinc (dissolve Sliver)
or aluminum & use in
Morlam to get an
Metallic surface by
Centrifugal —

Reduce Humic acid for Chemical or
from Sugar + HCl by Mthy hydroxide
[illegible] — or price Letter [illegible]
Mild Caution

Often get Ula Make 20 lbs
or More Ammonia humate
filtered dry + ship North for export —
[illegible] with [illegible] by alcohol
Try Humic + formaldehyde also
with phenol or aniline added

5 cc Conc HCl 3 Mthyl to 500 cc
Mthyl — use 50 cc of sol to gram
flake + boil and test sol for
Mtl; also [illegible] sol heat
[illegible] hours as did
before + test sol see flocculent make
both deposits —

For Gr Make 25 lbs of
Tannic Phenol formal
product to export with
[illegible] solvents etc to tanner —

Make some pure Sol'd BS & see if it will mix with Wool or or Formal Tanic & Acid compound Logwx Longmpsx —

Try Shellac with Formal & shellac " gutta - Balata & Gulding Cements —

Formate of Bismuth & Sol'd Dolomite

Have Hooper Try a Reg & a Bi Reg chgd 1/2 a reg & a Cold dis Rot - B ditto & do it several times to 2/3 of Extra Capacity sent above up for Previous chgs

Hooper take a tube that has been dried & see if then put it on Rot & see if it could dry more also 1/2 rate

also chg Flat pockets Hold & slowly but also 1/2 rate

Substitute for Cellulose Ricinates or ricinoleates of Pb & Zn

Precip some Cu & Ni Sulphides by means of just enough lime — Ox by Hypo, ditto air then dissolve out Nickel by Ox the Ni & Sulphide by Hypo group also after

Brentano send for
Philosophy long life by Finot
Kashmir by Pirie
Napoleon the 1st house by
Browning —
People of the Polar North by
Rasmussen
~~Phrenology~~
Phrenology by Spurzheim

See if we have some marked tubes
for coils with Bi lite flake
or use Bi fil — if not use reg
tube —

Look up
~~tube~~ some bad tubes that were good
but gave 200 + then bad —
Charge these cold + discharge hot
Reg rate + 1/2 rate 300 —

See if can permanently preserve
a good tube as Barnes poorly had
them plenty it may be by 7/6

that makes tube go bad hot +
discharge hot takes 7/8 off Colorado
but it goes back again on cool
charge by charge cool discharge hot
deberah thing might get for
away + tubes go dead-damned

Hooper charge 1/2 fast cold
then heat to 130 for 1/2 hour +
then cool off and discharge reg
see if heat disappoints —

Hall and Hooper use + Pallas —
for really advanced medically
but recommend for something —

Hooper charge hot + discharge
100 diff 110 120 + 130
140 150 175

~~Tubes~~ Look at book see
how 33% was

Hooper get 2 new Reg Subcommittees
change reg rate CACO 2 dly Hot
1st time acid now mixed Comp
nearly gets in the 1st time

Put up reg tubes 21 K 2 Li Hot,
Chg 1/2 rate twice dily reg rate Hot
do it 3 times, then put in Hot
Boil —
ditto Bi —

See if the groups with aluminum
were put up — if not, what have
the workers got a reading not —

Hooper get flat plate from Bailey Co
a chge 1/2 rate CACO dily dly Hot —

Premature leg requires acid plate

Make group of Cast 2 1/2 dly this
group with a with Bi flake
Chg 1/2 rate CACO 21 K 2 Li dily Hot
do it twice run 6 days Hot

Groups work with with Li Hot —
Chg 1/2 rate twice 21 Sodium Thyprox
2 hrs acid dily reg Rate Hot
twice Empty out NaOH soak in
2 hrs Empty this out put in fresh
21 KOH, run Hot 6 days —
ditto Bi flake —
also Na Equivalent wins —

Cont flake with Cover, make group
1/2 rate chg dily reg — 21 K 2 Li
6 days Hot —
ditto plate with Copper

John Ott for the Aluminum tube
for Holland in tech. index a
test tube — on —

Design a good flake
reservoir metal, ~~[illegible]~~
Monel,
also make a cheaper wooden
on 50% lower discount
to increase output —

Flake Book

Revolving rubber wiper or brush under spray - or Bone Carbon

Reduce Bi on flake books see if separation —

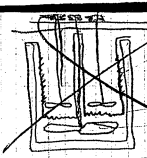
Wet books with Conc. $CaCl_2$ dry & then precip by 33% KOH to separate —

Wheels. Room in Bakelite cal

Show moving Coated books & then extra cylinder under sticky surface wheels moving until covered after adhesive said —

Wet books & Coloidal cold freeze or use freezing liquid - freeze personal times —

Sticks to cylinder & throw off by Centrifugal —



Book

High speed flake thrown out to rough surface of sheet or cover and gently like surface at high velocity in order scraping action throw off - Coated sticky surface sticks to inner surface —

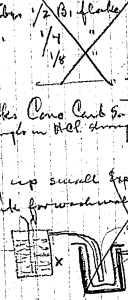
See if Engraved Graphite wheel slide to Carbon drum bottom — test on copper electrode in acid solution also nickel - Apply to Shaft & everything possible Glycerine or Collodion or Gum Arabic required to make it stick —

Methylene Iodide or Compound of Castor oil or that part. Also Amyl acetate —

2 lubes 1/2 B. flake 1/2 104
2 " 1/4 " 3/4 104
2 1/8 " 7/8 104

Brooks Cons Carb Sol dry then
plunge in Dil. dump two to separate

Rig up small Squirt to mutate
tank for washing —



does Carb lime Sweep H_2SO_4 final
try x with Carb Lime —
if it dont use Muffled with
dump limestone or marble —
if dirtier H_2 sweep then use
Carb Ba —

Dodge can't you show
down drum wrecking
engineer — also guards

3 dum gross 1 flake
lamp off th in dump of gross
another lo 1 impos
" 2

Take a 1 to 3 104 fl open
a dis in H_2SO_4 to see if
flake boxed any also
try new lot down drum
acp by Dally same way

Tell Halland Chg tube various
microscopy and 3 q ducky flat
to determine if H_2O_2 reaction
really takes place —

When new flake jig old Hans
flake man come over — do his
work with it + accept it —
is OK —

Dr. J. Rig up ClO_2 or $CaOCl_2$ all
process for Cu + Mn tell me

get some of the exhausted flake
liquid + evap repeat
Sulfates Cu & Nit Cent Ag
Crystallized & off throwing down
the Copper as the —
also try with Lime to precipitate
the liquid + perhaps the NH_4SO_4
only — to get Calcy out by
Soluble —

Dr. — to get rid of the $CaSO_4$ in the
Nickel liquor + precip dry + heat
with Soda — filter & evapo.
Whole $CaCO_3$ + Na_2SO_4 formed
Water washed out by boiler +
$CaCO_3$ by HCl leaving the OH.

Important —
Take 2 hour charge (for rate Cu)
discharge requires CO_2 —
then bring up to 130 for
1/2 hour then cool + finish
discharge 1 hour 1/2 hour
wether 1 hour
This will prove MgZ_2
reaction

Dyer patent the V
shaped recorder for
400 thread —

Get a powerful Eye glass
Make to the so can be worn
pocket, spect seat me

Ask JVM figure cost of
Taking grain from old tubes
+ dissolving the wood on an
+ Reprecipitating spoiling the flake

See for hanging lamp
gives off no rays valuable
photographically then
black paper on them
all also in fluorescence

Weller make tube two and good holler next & dump green then flake then trump —
3 Observers of 2
& rub the flake of trump
This would give us plenty benefit to make good dumpers, look out book see how the ones we make are running five minutes by taking gross charges on flake

Dodge speak about Cant flake cut bent Enough to pass well

Put tube wet well 21K out to Freeze see if appears

Dodge Be sure the 20 Sea Cu flake actually operates in individual pieces and not many doubles

Holland chg cold ½ water dis. 100
110 115 120 125
140 160 200

Give Dyer Drawing offer reading specifications of flake & Crack chg flake

Hoover chg cold ½ pt. Rum with 33% strk 6 hours on the cold

ditto chg ½ cold dry chg cold & wheel down to 30 pinch tube by a clamp see if Vat go up

~~ditto~~

Holland chge ½ cold dry Cold take out & put in Vac few minutes get gas out put back & check again this will prove if the gas

Hopper get & discuss that Morrisburgh Lots, chg ½ Cold dry hot & ask if he wants chg cold ½ dry cold then dis hot

Send down ffla Complete
lamp Alcohol lamps & wicks
~~and~~ Lot butter dishes &
some melting dishes
20 lbs Mutton 5 lbs Shellac
button tools 2 lbs flower
Sulphur 1 lb ether Sulphur
5 lbs Balsam 5 lbs
Iodoform 5 lbs Gilsonite
5 Rosin 5 Stearic
2 lbs Each Dammar
Yellow gum —

Speak to Rogers about hardening
Spring point on rolling
rolled up Mi lube Gauges
so it dont wear 9 underneath
Cause cutting up wear —

Johnoth. Jump rod Nickel
with iron Core drawn new
Cut out 7 by 7 rod for loading
tube with Center wire —

also tube of steel Chrome & Chrom
hardened and bored out
3½ in another —

Reduce some Bismuth
on lubes 2 of Each
ditto Bi on lubes & Bi
flake also —
Dip both of above 1 Each
2 R 2 L 1 Solfmd

Make lot of Bi flake
for loaders if used
colloid I am going

Mallinckrodt what his Alcohol
& discing that various rules
like the Bro he has

—

John Ott makes a cement composition
dis in Corrugate Cellulose to
see if found other [illegible]
[illegible]

ask Dyer if patent in
England and Celluloid Records
if it could be had
Dupe —

Boil Portland Cement in Cocoa
water see if get a jelly &
use it on 3 rd. also in
water with 3 parts of chrome
Dis other Cellulose in
Creosote & act on it by
Bisul. Carbon & see if
leaves film —

See if Oxid Iron 5% Bor
Cellulose ~~[illegible]~~ cooked
out by CO_2 filter
dry stuff is soft in
melted organic or liquids

Try Camphor & melted
Naphthalene & Spong Cry Cellu
shellac in /t

Try solution of hard water
melted Naphthalene —
ditto Zanzibar Copal
" Amber
See if Para Rubber dis
in melted Naphthalene
form sponge & dis out
the Naphthalene

Take CO tube chang £ 1/2
nuts - boil in water
Hours dtto 24
also fully disdry boil
10 — dtto 24
see [illegible]

X132 Use of Adsorption Compd/Alumina in those Dark Chem. precipitation Industry, place best shown —

Viscose with some soft Coagulating substance — let then dry + dissolve out to make Leather —

Paper KOH & in Alcohol dried treated CS_2 dried + a solvent found for it Organic —

Shellac melted in Naphthalene as a rapid Varnish for wood work — also Shellac + Trichloroethylene —

Shellac sol KOH try shellac Viscose also with a Coagulating salt

Boil 1/2 doz old plates in 10% KOH for 24 hour exchange bath — also some CO_2 tube in some salt —

—:—

Treat leather with Alumina Cleaned to Water proof but not see proof —

Artificial leather — cloth Viscose + balata Gelatin layers — also cloth dipped in shellac & Naphthalene

Pressman make a Regular like his Cork recorder

OEG

Theory

Why 5000 Cells cold chg works best on hot discharge

1st Prevented from contracting grs + passing Carbon

2 Better circulation brings in Lots KOH.

3 LiOH Contin decomp + furnishes lots alkali

4 Makes internal electrolyte better conductor

5 Heat retards LiOH dissolving hence prevents shrinkage

6 Want alkali at Contact grs + plates, it diffuses + washes grs in further away

7 Want of alkali further in causes grs at hole fully discharge + washes before grs in interior

heat increases circulation way in + grs discharge as a whole

1st + 7 + 6 only ones likely

Why does 1 tube in 5000 plate give only 275 Mah while another gives 1850?

1st hour tube has cavity at top mix loose

2 Flake feed bad layers skipped, or dust feed enough

3 Inner surface tubes dirty

4 Friction on Tamp, prevented full blow - packed loose

5 Loose Cap - cavity - grs on flakes fouled grs away

6 Grs in greatly washed out holes - all mix loose

7 Ring loose

8 Greek fed to sides + one side packed hard other loose

9 Grs supplied hopper, went one side tube,

10 Tubes small + stretched too much by Tamp -

234	Chg 1/2 rate	V Cad	dis	equal rate / Hot
235	1827		1850	
	1723		1757	
	Cad	1/2 rate	Chg Cad	Dis equal rate hot
230	957		1823	1890
231	1010		1823	1903

478-9 Bis	chg 1/2 rate	Cad	dis Hot
	1750		1720
	1713		1723
	1750		1767

Conclusion

K Cellulose - Try double decomp Sol ammonia

Sul Copper - Use form

Sul K + Copper Sol ammonia

Cellulose - Etc etc

Many deposits of Dis Comb Combine with Cellulose

Write Messrs Grosjean
to get Cloth ex over a
pulley hot — also
Woman to play —
washed Cloth —

Try dissolving shellac in
Perchloride & may deposit out
also in the fatty acids —

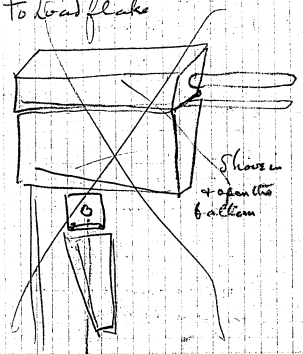
Act on shellac bichlorophenol
Compound with Carbolic Benzol
to harden surface

Harden the spongy shellac
by Carbolic Bar Sulfur
Naphthalin & dissolve
out —

Try Benzone & Anthracene
for dis shellac

10 parts Gum Copal & 5 parts gelatin
are separately dissolved in Acetic acid
& then mixed a small quantity glycerine
& Castor oil or in the final Glycerine
glycerine or honey is added to improve the
Composition — The action of a trace
of Calcium Chloride renders it
non inflammable & it can be moulded
into articles of great delicacy of
structure Sackhouse Ind 1888 127

To load flake



good. Sulphuric acid or lime is mixed with water or iron turnings. The turned metal will be sulphurized or combined with the iron & the sulphur combined out with water. The [illegible] is soft. It put in a still & heated till it gets light brown. Naphtha comes off — one degree of hardness is elastic & spalleable yielding by pressure. Rubber. 1 Ton steel, Ton gas 1/2 Ton of sulph. If it is heated higher, more is & 6% of [illegible] left a material dof in Naphtha & [illegible] as hard & tough as Ebonite or hard Rubber, is oxidized. It can be made of various degrees of hardness by stopping the [illegible] at different points, can be pressed in moulds. Has a varnish & enamel to metal better than Japan varnish.

Chem. Indust. 1888 304 —

~~[illegible]~~ Rosin

One molecular portion of Hydrochloric in the presence of an acid is united on by one molecular formula of

Sulphuric acid 400 pt.
Manila Copal dissolved in two parts of 6% sol of Na_2CO_3 surrounded in hot

Intuition of Steam in 8 parts
ROH, a 80 parts water, the
mixture is then neutralized by
[illegible] the precipitate
filtered washed & dried.
US pat 898382.

Treat a fresh filed with H_2O_2 &
then run [illegible] alcohol —
Some amount of [illegible] $NiOOH_2$
made NiO_2 by H_2O_2

Export Industry [illegible] Mill
at Ft Myers —
[illegible]
or rosette — Company [illegible]
[illegible]

[illegible] deep recess
[illegible] guide line [illegible] deep for
[illegible] hooper

Hooper clay 1/2 with clay
1/2 Cap 9 d [illegible]
Dutch clay [illegible] 1/2 clay
Hot prep but 1/2 Cap
10 [illegible]

Cupriteh [illegible] Fe_2O_3
or other [illegible]
by the Curve [illegible]
[illegible]

Nolland [illegible]
good [illegible]
[illegible]

Hooper [illegible]
a [illegible]
clay on [illegible]

White to mix [illegible]
with [illegible]
in Centi [illegible]

Walker set up 2 each
719 - 739 - 718 - 109 ft
Run 21 K 2 LiOH for 50 feet
then change solution
Increase Li To 2 + no
Lithia —
Drop with 109 ft but
use 21 2 Li each time.
Drop - Drop Comp to
after making [illegible] before
running 21 K 2 LiOH
add Li —
Drop only Li for 50 Run

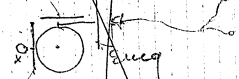
Ask Ingam of he think Cored
Multiply volume in recording
by using precision

Phenol - C_6H_5OH, 1 Hydroxyl
Pyrocatechol, Resorcinol
Hydroquinol are
Dihydroxyl — Hydroquinone $C_6H_4(OH)_2$

Sun
Earth

X Coil out acc. of not current

ditto shutter throw ray thru point


Q
Q

Lead shutter Radium Lab.
also X Ray acc of affect
surface

ditto throw ray against the
diaphan only [Can Cut version
diaphan diffuse like metal
Its acc of not second.

for dissolving Bleached Shellac
Hexachlorbenzyl MP 157 C
boils + decomp at 288
or Isomeric Hexachlorbenzyl Melts
300 C + vola sublimes below Temp

Lelands Copper Compound
with Polyethylene

Try Measuring Diphenyl in Gallery

Record of Shellac Experiments

10 Diphenylamine, grms
70 Shellac
1 grm Acetanilide – is ok for shellac
no cord, keep low heat, it will last 40 minutes
reasonably well, day or two little affected by
heat, no a record – Temp was 250 @ 300 F.

Oxalic Stearic Stearic Some stearic acid
mixed melts to liquid liquid dissolves
shellac OK, it dont soften at all by
hand like Diphenylamine – must be worked
low temp as it tends to form bubbles
when it froths acetanilide quiets it down
it dont stick to dish – its strange what
small amount acetanilide softening by
hand, but the moment try use acetanilide
its very sensitive to heat fused, hence no acetanilide
should be used –

0084

Expect to get a substitute —
Johnson's Wafer of Cochin
1/16 chin 2 of them for total
using Kanyu's expect to
need only 260 drops
instead 300 —
fusion 2 grms Tellurium to
his pocket — Sulph. 2 grms
with Grant 10 of Cake —

4 | 1500000 month 75% Rey
375
1125 3 | 1125000 pay Rey
375000 Lambrec
33% cambrec 750000 Rey

Cost Delivered 7 centis
750 - pir for 70 per m
70 anch
52500
15000 Rey

375
110
750
375
375
4125
4125
337

375
750

22500 month
Rey

See 1886 218 Alginic acid
fine – just what we want –

Alginic acid comes from sea weed soak in dilute H_2SO_4 1.06% then decomposes intercellular binding material thus bring with surfaced alkali or alkali salt to give a thin soup – the disintegration of the seaweed takes place about immediately – liquid is now filtered and the Alginic or Tang acid is precipitated with 60g H_2SO_4 – alumina Sol Nitrate – leave filter bags
1884 – 300 – on origin

Get list of it made in Florida
Gather at Sanibel –

The Sap of the Mangrove Trees is manufactured in water at ordinary temp the sap called Cativo is a semi solid bearing fluid 130 Tons & more Gutta Rubber – dissolve same and wants –
Get on Flora –

Condensation product of phenol Tartaric a + formaldehyde

155 parts Tartaric a
100 " formaldehyde 40%
195 " phenol – 100%

The tartaric is to be dissolved – the formaldehyde then added 195 lbs phenol + boil about 15 minutes to a white milky substance separates out – this is to be separated from the mother liquor – washed with boiling water, separated, finally washing a little ammonia – dry & melt very slowly, then ready to use –

Mel chem industry 1888
Shellac p 391 – 682
1882 180-181 –

Shellac dissolved borax –
Sol with conc NaOH KOH, Sol hot water + alcohol – Sol dilute acetic + HCl acids – not – H_2SO_4
Lac removes in Commercial Stick Lac
Seedlac + shellac – 1st is natural only for the bag.
Shellac – Resin 90.5
Coloring matter 0.5
wax 4.
gluten 1.8

Cement

Raw material costs on various basis

Quarry 1	60%	12°	4½ mg	
" 3	30%	20°	28 mg	6.7c bbl
" Rawb	10%	70c	25 mg	4.49 mg

Quarry 1	50%	21 Cents	7c bbl
" 3	40%		4.65 mg
" Rawb.	10%		

1.00 of Zinc

7.40 Lime

Quarry 1	50	23.5	7.8 bbl
" 3	35		
Rawb	15	33.0 Zinc 7% for Lime	4.00
			4.49 mg

Quarry 1	50	26	8.6 bbl
" 3	30		4.35 mg
Rawb	20		

gives average magnesia in Cement 3.7 @ 3.9%

Mal[illegible]

1884 Jul 500 Chem Industry
p 253 good way make
Resorcin Benzaldehyde Resin
like Bakelite - unload Lakon
from cement chem Jr 5 338 340

tell Dr Q lin Lotl is
free of Lime Carbonate -

Ullmic compound moldable into any form - used by Cents for fulcrum
80 grms Sugar in 100 cc distilled H_2O of fellers crystalized with another 100 cc to fellerate add drop by drop 300 grams of H_2SO_4 with constant stirring after standing 12 hours diluted with 300 to 400 cc of water added drop by drop & constant stirring after cooling again slowly diluted with H_2O until 2° B then filtered till sufficient consistency to be worked on a slab with a Rubber roller to the form of an Vac pump or in a Hydraulic Press then Chem Industry
1888 37 -

The length of a column of air which resounds to a fork is equal to one fourth of the length of the wave produced by the fork if 57 inches then a tube closed at bottom of 13 inches long – (18) 13 then a fork is 26 – this is a comparison the range in 26 is at 52 if tube is open both ends then instead of 13 inch long it must be 26" or double the length

Middle Octave on the Piano

C	258.7	G	387.6
D	290.3	A	435.0
E	325.9	B	488.2
F	345.3	C	517.3

C 104 inches
D 92
E 82.4
F 78.4
G 69.8
A 61.6
B 54.9

C 52
D 46
E 41.2
F 39.4
G 34.9
A 30.8
B 27.4

C 26
D 23
E 20.6
F 19.7
G 17.2
A 15.4
B 13.6

C 26
D 23
E 20.6
F 19.7
G 17.2
A 15.4
B 13.6

C 13
D 11.5
E 10.3
F 9.7
G 8.6
A 7.7
B 6.8

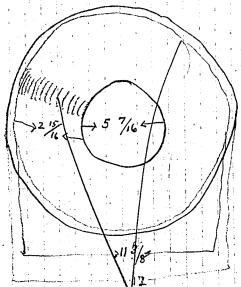
C 6.5
D 5.75
E 5.1
F 4.8
G 4.3
A 3.8
B 3.4

Closed one end

Open both ends

Tube near middle by cut 1/2 the length of closed one end

Victor 12 inch Record $1.50 price



Speed 78 Rev 100 lin feet to inch —
3/32 thick — weight 320 grms —
needle 6/1000 wide for recording —
at 78 Rev runs 3 7/10 minutes scant
speed inner circle 22.18 inches second
outside speed 46.13 inches second —
no more margin for record without recording needle made smaller —
mean surface Vel 34.24 inches second

old plates Brunswick

	per gram m.o.H.	grain mix
1 %	190	153
3 %	258	200
6	280	211
9	300	225
15	322	215
30	251	141
33 %	322	225

our new 4½ Record 160 Rev 14.13 circumference
37.58 inches per minute 8 3/4 minutes
Runs on 7 inches surface —

13.3 | 180 | 13.5
133
470
399
71

4968 –

120 – | 2000.

13.5 | 746.0 | 55.2
675
1.5
7675
35

180 | 746 | 4.14
720
260
180
8000 | 82.8
4.14
49.6

930 Langer – .54 % Zn
58.79 Cu
40.67 Ni

130 Langer .68 non
66.03 Cu
33.29 Ni

Analysis at plating Room

930 Langer –
Ni 26.1 %
Cu 70.8
Zn 1.1

2 lb 6. 20 lbs – ~~[illegible]~~ 11 lbs 9 oz out
1 lb 4 oz 15 " 9 " 4 oz

30 Volt - 3½ watt 8 C.P. -

80 Lamps - 4 hours -

150 200 3½

200 200 210

1040

1255

120 120.00

80.00 - 1c

36 cents

50c

8000

32.00 33

160

1000.00

800.00

5850

35

1666

85

800

6800

1600

120

8000

3200.00

6800

3 | 1200 | 1600

400 | 1920.00

200

200

446 | 4000 | 84

3568

432

Mum would to Mg Nov 7
Nov 10 * all night
Nov 16
Nov 2 To shmoweedord.
Nov 3
Nov 5

80 | 446 | 5.5
400
46
55
20

4 | 320
320

phonograph 79 watts
phono — 30.5 "
car 48.6

42.5
3.3
212.5
1275

35
57
245
175
199.5

3500
1995
1505

1500 / 140 = 10.7

57 - 1/4 35/4 14 2/4

20 / 1500 / 140 (7
4.

35
42
210
140
4.71

Pressure 1 1/2 lb on airphono

21c 19 35
140

6 5 4 3 2

35
60
2100

35
35
2

2800
1750
2.3

3 old mugs Tramp
Fordline

75
15
75
15
225
112
33.9

.337 cubic ft 180 lbs dry lb

36 - x 96 sheets

Notebook, PN-09-07-20

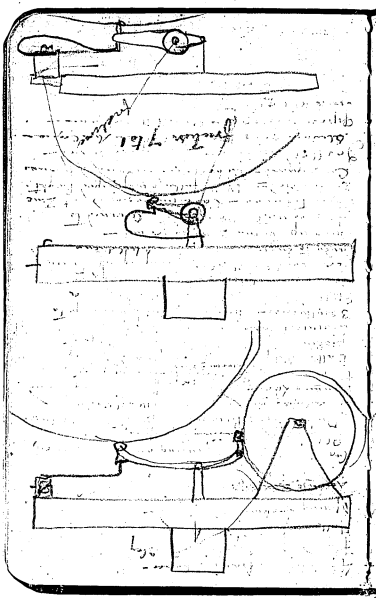
This pocket notebook was used by Edison during 1909 and 1910 for notes on experimental work and other tasks to be performed at the laboratory. Many of the experimental entries pertain to phonographs. Included are notes about various reproducers, possible amplification devices, phenolic resins and other materials for record blanks, cabinet design, and recording conditions. Also included are references to phonograph marketing, musicians, litigation, patents, and sales. Among the employees mentioned in connection with these matters are Jonas W. Aylsworth, Frank L. Dyer, William Goodwin, Walter H. Miller, Alexander N. Pierman, and Peter Weber. There is also a reminder to send private investigator Joseph F. McCoy to the Victor Talking Machine Co. works in Camden, New Jersey, and the American Graphophone Co. works in Bridgeport, Connecticut. Other entries indicate the number of musical selections from 1902 to September 1910, along with the amount of sales to March 1910. One notation providing the names of musicians is in an unidentified hand. In addition, the book contains notes on electric vehicles, storage batteries, cement production, and motion picture rentals. Employees mentioned in regard to these concerns include John R. Anderson, Jr., Herman E. Kiefer, Walter S. Mallory, and William H. Mason. There are also entries pertaining to Edison's life insurance, the transfer of property to Mina Miller Edison, and the use of space at the laboratory. The front flyleaf has been used upside down and the first page of notes has been written over an erased but partially legible autobiographical entry. The pages are unnumbered. Approximately 100 pages have been used.

pleasant Valley
Center Hill or Hampshire
Hartland or East Hartland
N Hartland or - N Granby
Granville or Southwick - (mundale)
Hartland Westfield
East Hampton - Northampton
Amherst -
Pelham Cooleyville New Salem Athol

Tully - S Royalston Waterville Royalston
State Line Rand. Thomas Westrings
E Jaffrey Hartley Monroe Petersboro
Hancock Hinsdale Holbrookbridge
Henniker Hopkinton Drummond Lisco
Concord

20

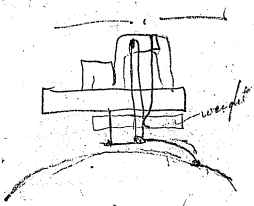
PN-09-07-20



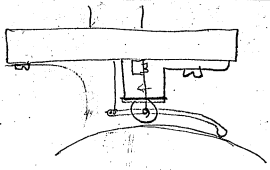
New Boston –
Otis –
Huntington

2)178
89
267

168
290

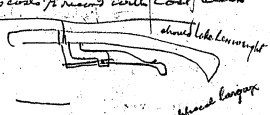


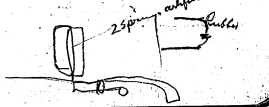
EDISON
STORAGE BATTERY
This battery is now made in quantity — It's invention is due EDOTT in the application of Electricity to Vehicle traffic
Send for Catalogue
Edison Storage Battery Co
Orange N.J. U



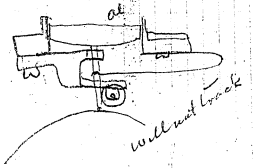
That big Chromatic dyke at Rhus, get direction — probably dead Ca Eclinds alongside it trend down in Valley Cah Ad get Oblong whale hill at powder House, Riddle + along dyke down in Valley

Mix some BIOH with green + make group
Take up cards 1/2 round with Coal clank





ass company Insomia – see Curtis.
1050 Lbs No 604 57 grms metal per Lbs
1750 " NaOH, 10%—

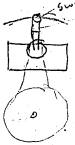


As Trad Oil Dia 4 times area
probably mouth piece should be
4 times area, ie double diameter
for loud but perhaps not for
opportunity

Try some of poor regs RA with
Bi flake —

Work on bamboo machine
for Standard Home etc

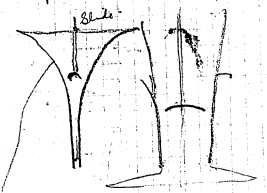
Standard
Harmonica



John Ott

Make a harp with Piano
sounding board or Tuning
fork box –
With Spice if he will do
some work for me –

Try high chlorinated bitumen sub in place of it Gutta possibly Tri Gum Camphor —



~~Henry Muller get from Meeting Notes & accounts of Fletcher & Walker without his name on Accts Bills Cement on hand~~

Split a funnel & crack it up with brass for expansion on inside —

Goldstein to take up ⊙ Rug clip make N O H, + dry it No wash 1/4 1/2 3/4 wash — + various dyeing after Daley gets them Rug up to dry N O H fast proper hard nut, ——

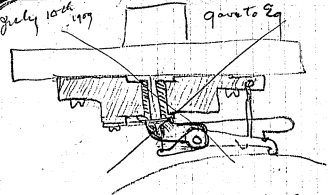
Eggleston design three dish rings to go in bag once also the flotation lever

~~Ask Case about Dyeing Thorns + Accomplices Cambrite,~~

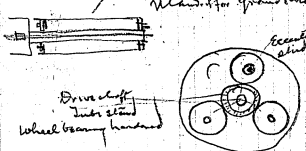
~~Write Dickson for 100 lbs 1st Sample of Dimethylaniline for test we purify here —~~

July 10th 1909

gave to Eq

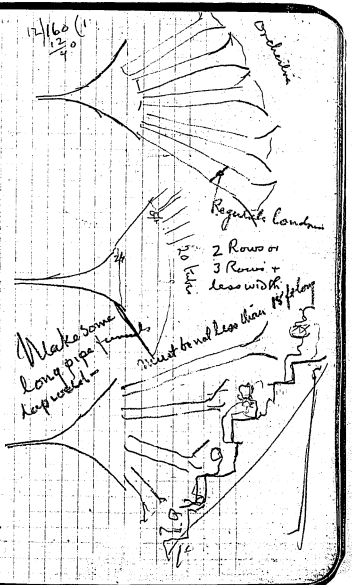


Made for grand show



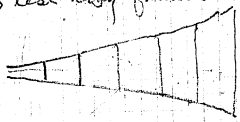
Legal dept How about Cylinder & plates if a reproducer adapted to reproduce from the 200 thousand in Columbia catalog the record — also of a mentype reproducer also cylinder with the 100 of a record capable of [illegible] —
Since we are now [illegible] New York Co. [illegible] are [illegible] for [illegible]
[illegible] for record — have legal dept consider & prepare —

12/16/60 (1
12
90



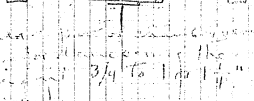
Try experiment of horn at 15 ft distance
Horn 4 or 5" tube open both end
and less than 10 ft long

Move Horn & small dome in
drafting room - prepare top
room for Music recording
Walter fix one up a recording
outlet by get Violin mat
to test long funnels



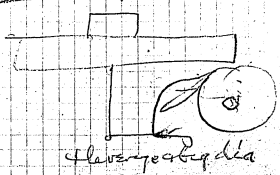
wood - 75% openings
~~[illegible]~~ holes not
in line - to bring
low frequ to 1 pole
a wood that -

Java Map 1 to 3 goes best for not
sticky 1 to 2 best for thick + mushy



Idea [illegible] the
[illegible] 3/4 to 1 1/2"
[illegible]

John Lauria & Son
Musicians
252 Bank St Newark N.J.
Music furnished [illegible]

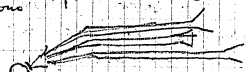


Horn - Speakers

Holland to take 8 plates
& charge them in large
crock to under same
conditions as small tube
then assemble in cells.

Waller Archer make some
groups of heavy loading
lot with single lamps
if you haven't already got
them - this this crocks
easier it will give a
lighter loading lot
or single lamps + was
just ~~[illegible]~~ the w with
Preg than of 739 was
used with double lamps
lower capacity Rogers single
lamp cells probably due to
lower loading lot

With conduit funnel -
18 ft long can probably
use a very small funnel on
phone



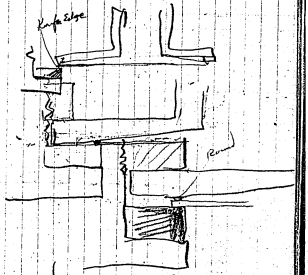
all ending in an end inch dia
just within a small funnel 6 inches
long even less

Waller make 48 green 4 f
with double lamps -
with Reg + also 1164 - or
other heavy loading lot
Little 48 + single lamps
with heavy loading lot

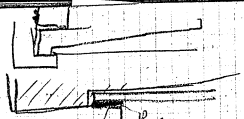
Holland take cell to
till 20 grms Li equal to 2 grms
then 2nd charge add 20
Carpet 2nd charge + keep
adding 1 until 120
added —

Little Salmond KOH 21 with
Li — then add at each
charge 25 grms till get
120 — at other cell
till 150 —

Patent Talva Electric Wrap
Cohen OK
+ MP Lowers



prevent the sound from the
felt hammer from being
Conducted through the
wood hammers by
use of Sand or Sponge



10/inch over edge not
functional but weight pull it down

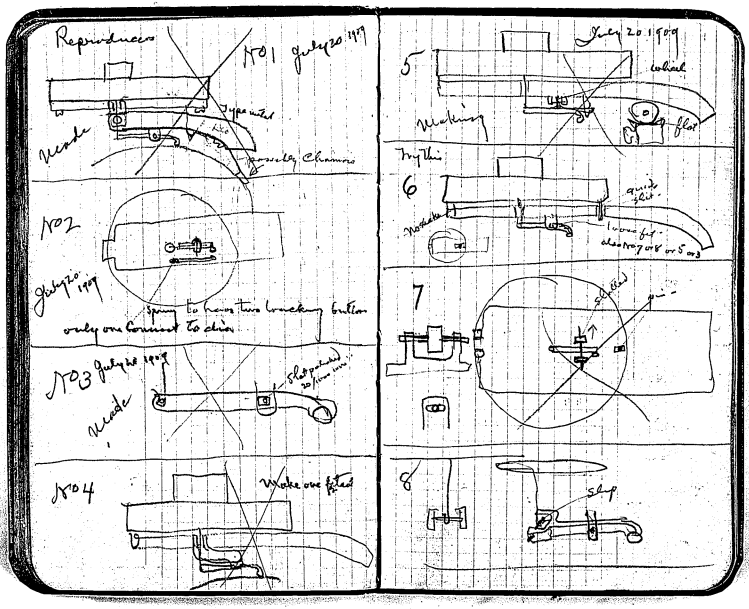
Heavy loading cost is due to
large powers dry hence easy crushing
ground in drum to some tackle
powders but being finer crushes
dust crush well
Hence to get an equal degree of quick
drying use Zolta No 250 of drum x
it 6z ounce + big heavy
loading cost green water
simple lemonade see if it dries
Come right in

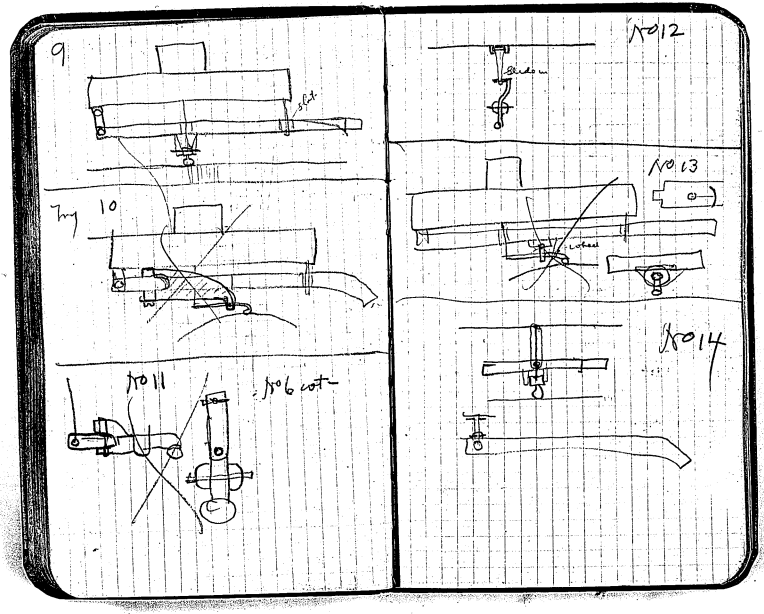
Put the blackeye Moly Cellulose
mix on Cement paint
Hot Cement in boiling water
also Red hot Cement in boiling
water, see if Can get Collodion jelly

Mix pigments, ultramarine used for
roof paint

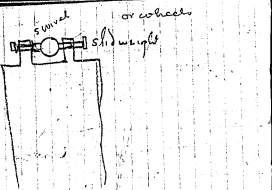
Urge Kerfoot Mason Constant feed Chalk a
Kiln switch blower saving the coal + compressed
air draft pressure

We have an Extra fine crusher in
Chalk plant that we dell never use
look up something that we can
grind fine that is saleable

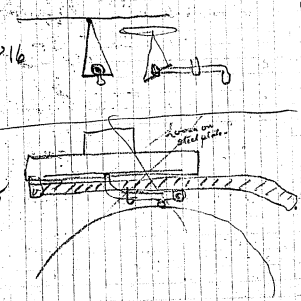

Reproducers
No1 July 20 1909
Type cutter
Needs
Jewelry Chamms
No2
July 20 1909
Spring to hold two breaking button
overlay over Connect to chain
No3 July 20 1909
Slot punched 20 from end
Needs
No4
Make one fitted
July 20 1909
5
Initial
Working
Flat
Try this
6
Needs
guide slit
lower fit
clearing out on 5 on 3
7
Slot
8
Slip


9
10
No 11
No 6 cont
No 12
No 13
No 14

15

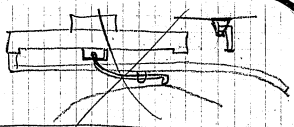


No 16



No 17
+18

18



Ask Mellow for backscrap
Edison + [illegible]

David S. Rivkin
39 Center St
New Haven
Conn.

Mrs. Rockard
will speak for us.

Cimbalist - Violinist

Francis Rogers - Singer

Leo Schulz - Cellist

Naumova - plays beautiful

Have estimate lowest cost
1/2 size cumberland —

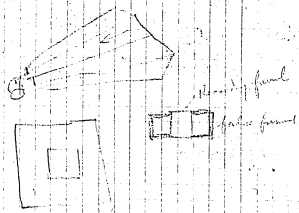
With Kiefer of Long Island Cement
rock dust mixt ~~easier~~ combine
with lime better, also of Ge
in low lime rock ~~makes it even~~
~~more flexible~~ — ~~of Colorado~~
~~would be much~~

Have good wide sq. made
to roll against Grain lube
~~cloth~~ cloth to slip on roller
32" 32" wide 4 rounded
wide cloth — Square Canvas
also round with flexible
To be permanent [illegible]
~~Bings~~

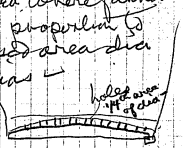
Have adjustable flat
Roller [illegible]
of [illegible] Copper 2 X 2

Benzphenol —

Nitrogenlack, Chromo Sanguine
neglect [illegible]
dash — London [illegible]

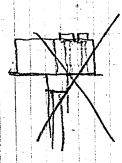


Make area where funnels
go on an proportion to
decreased area dia
on big dias —
also



Put electrolyte Screw or
Case on Oxidizing
Ferrous Sulfate.

Put up 6 Tubes 1481 Ra
with 159 f Bi f
Single Lamps + 412 24-
dip 44 46



Sept 7 1910

Make tube with Cadmium
Hydrat + flake also metallic
Cd ~~for~~ decomp by Zn
or H + flake,

See if Lamp Dept great
appreciably for rectifier
+ also both on 1 current
also regulating by
resistance + by cutting
off zones of Commutator

also Vibrator device
for rectifying

Make tube of Sulphide
or tube with Cadmium
Metal removed by H
by Zn + Electrolytically
with Sulphuric Acid

with & without Hg
also with Bi OH.
also Cu(Hg) from OX + Hg
also Hg treated OX
flake & Bi + also
Hg

Design new Kreab
wallcoat

see proof Neg Ad for
Coming Wed/R —

Ornament the new
Geo. Cabinets —

Take up making of
steel - Mahogany panels

Take out green & flake
from some OP tubes that
are bad & use glycerine
etc & separate use
little HCl - make up
new tubes —

Also take some
very old tubes Reg
that are 1000 &
Treat glycerine & COOH
& zip flake & green
& make new tubes
see if OK —

See if Bez has tried
Rubber sponges & air pulsators on
underdrains
If bubble Aerator tried
on AB —

Make inclosed of 7 pc
an Antimony tube with
without flake, produced
by H, from the oxide -
possibly mixing Sb with
Fe & make like Cond
of the H. on antimonite
Hydrogen. This may
be the reason we get
high results with Fe
containing Sb. -

See if John finished
drawings for 1/8 tube
machine hurry it
up -

Hurry 20 cell delivery wagon

Get Record of Water gas
Burner for Advertisements

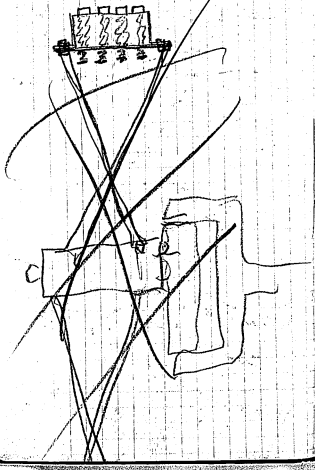
Consolidate balances of
Orders in 1 or 2 accts
to save Expense -

Launder - sell by
Demonstration -

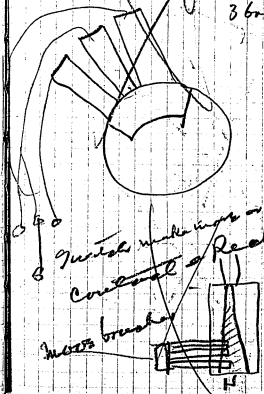
Write Anderson about
My chg prices & Lieb -

Put Allowance on dipping
test Cans at Fallon in
Compounds to stop Leakages

Bed form

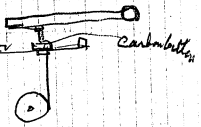


asked Woodrow to have
wagon men when they
run into a county already
got plows to check to look
at it piece of an order
3 brushes -



Try 2 grms Uric acid in
Red Cell —

Try 2 mg Chalk under
oil to stop Evaporation
see how long run
use no Cushions Cover'd
Have it but only the
waves to save drawing
Water —



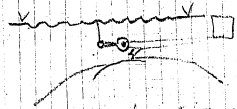
to make true Microphone
after employing Phone

Dyes - ~~why not act as cement~~
~~all over work & start~~
~~reading flow etc~~

Mix powdered Sulphur &
Iron 4X6 — perhaps 5 well
Cover stuff to stick to Con

also. try. Sulphur & Iron mix
dip see if fix Con —
also Sulphur Iron mix &
Asbestos,

~~Dolly work on enamel~~
~~very low mp —~~



to provide a friction slip joint like Heinman Zes to diminish expansion Vib + increase resolution for overtones —

Weber to record and show changing speed should not use fibre shoe

Goodman Why not ship shows + Records direct to league dealers —

Sell CO Records by having list 30 25 20 + 15c

~~Wilson Bowling of the 3 million returned records having wrong —~~

New idea

Balanced wt. Exactly balanced. The low resolution from overtones but big vibrations greatly limited

Total Education listed from
1902 to Sept 1 1910

Domestic	2	men	3408
Foreign	2	"	4760
Domestic	4		513
Foreign	4		793
Grand Op	2		70
"	4		58
			9602

Total Sales to Mch 1
1910
109 Millions

CO records since Feby 1904

Dom	1373
Foreign	773
Grand Op	27

Left 40 boxes
labels on CO Records
on hand
keep them

Hyam -
Was employing lawyer on
Recorder with 2" above

Fredoth get Malogh ready
Heat rims with Meker 1/4 up
Make Cylinder and Cord about -
arc 1/4" Carbon - Tungsten Cord
arc and 1/8 of funnel 1/8 hole close
to arc, Jack arc of horn in telephone
if so try Malogh on it.

~~With Mallory Lebetter look
into Paint Box since
July 26 we have sent
440 lbs empty tubes make
7000 gals.~~

Heal recent flake for
Hyam - Heat Each number
as Wilhm gets them

Goldstein to make NaOH with
Sodium NaOH & Crystals H_2SO_4 in a
mixer — + keep at the ok —
anhydrous sulfate
also try mixing with Methanol CH_3

Reduce Fe_2 by Zn from sulphate

Also try $FeSO_4$ + NaOH dry
Then dry it, peroxidate + reduce by
H_2 — try Ferric of above ferrous
Heritage analysis from $FeSO_4$ precipitated into fused NaOH
Wheat —

Fisdatt make moisted to holder to
Ammonia of product then they make
now + forces same amount of Fe_2 on
by heavier weight kept to the amount
look up capacity per gram of the Fe_2
now on test that show good results
from heavy tamp — Mark Conrance
capacity 50% — get other tamps with less Fe_2

See if the Cavalry Cells had
Li OH in in addition to the 10% KOH

Pierman

Big Tank 3 ft dia 3 long
side of complete

Small Horn

Tell Hoffman reason dense Condensing higher
uniform dopped back pots —

Goldstein — Make large Carb Stroules
pins + fine — bottle Zn acc — micro
+ mach 1 or 2 cylinder —

Selling Plant Cement — in 50 mound offer
to mound mem — bag paper or smaller + keep
— with other good plant + specify 2 Cement,

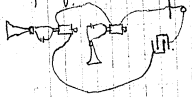
Ditto Cabinet — for use 2 Cement, ditto
Sidewalk + block people for same —

Chromic Cu — wires immerse still
air blowing Mono by wind mill, H_2O
abstracts, then wind mill works
oxygenates + distills off water
— arid regions — ~~this~~ running glass
on call to outlet water

On chalk when working ammonia and Turpentine oil or Jasmin Dissolved by Cylinders or Linoleum oil -

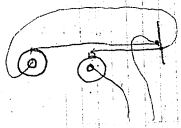
Immerse a wet chalk (working) down in Benzine -

Use 6 telephones in multiple also series connected to one Microph. Each phone having a funnel -



Eng Impulse for acoustic, hand Turn

Use phone back to Bell then to Eng & that to Edisons records - also use funnel and tube in it see loss



work in series also multiple -

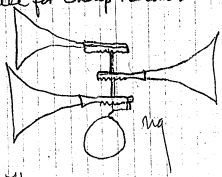
Make some Cylinders of Resin & Asbestos fibre for Petit to press Cast & shape & turn to size

Try oil — Rosin & Asbestos -

Try Gilsonite & Asbestos -

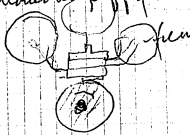
Try Asphalt (Utonite) etc. Idea & asbestos

All for cheap records -



This principle of sep chambers & funnels but all idea connected.

Should simplify greatly



Try 2 more cellars N Say see if sheet iron
stay make on the + 2 dots bring up in H
which in Twist Tube – make sheet in
shock sheep –

Mallory Hoos adhesively mean come into
+ give him some coats or aggregate in
Phenol Cresol where changing to
the ground + coat of Cuts.

K Co Nitrate required for K – make
up 2 litres 5% Co in green or mean
that we have to add 2 grm Nitrate
K to 5 cl dilute 2 in Nitrate

Henry Miller: find out Value of my
Mutual Life policy also if I
can change it to add the children
now – 1873

Emulsion of gelatin & Turpentine
spread to light stones give ozone
& ox the gelatin separately of
Turpentine add to plate, it would
be more sensitive to light

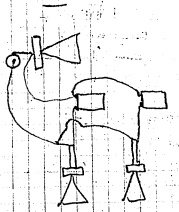
Chromeleon get fish so
can dip A & then get
Couple – move from phrons
wrong clean dry & dip

also one tray from Waverly
Lancaster Tower + 3 Red
machine new slope after
weight test not made

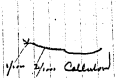
Hooker draw collect full size
+ see how many inches hooks
when compressed 1/4 3/8 1/2 + full

When only real big 3/4 return on
Circuitry Elev at roots 1/4 go up
or 4 elevators running up to clouds
instead S belt top shock House

Waterproofing go around get Painter
use it –



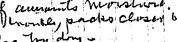
Piermann



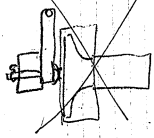
Try Alth - Make Sr CO_3 bottom
dif accounts worsened. Humpe Hg
unknowingly, probably closer by lubrication
also try dry -

Try Carb Polonich & free KOH to wet

Use Mica built up dia

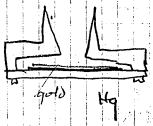


Make Carb transmitter this



Ball silver float with Carbon on
Ball on levers Try Al, Tin, Lead in
press Lampblack in

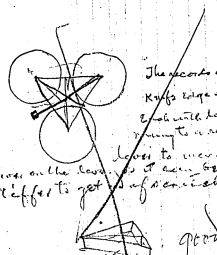
Try big Lampblack surface with
Silver or gold foil



Very thin Silver foil (smoked) ~~[illegible]~~
& hold on & wrapped around Edges -
6" round - possibly 2 of them
in closed glass chamber

Piermann Walke make rubber ring
Dome .002 dia - is Al scoured first
must be

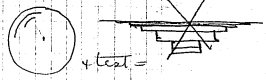
A balloon made of (smoked) foil (Lampblack)
one end on the rubber 10 drops then pressure
a bottle,



Vaseline & Castor oil
Vaseline & camphor black - by CO_2 mixed to Cut very
easy also stiff to make round surface, very brittle & cheap.
If cut deep open air pressure & not tamp & cut
takes no power phly no scratch.

In Pathe rey make Mean clear

~~2 3 5 7~~ 2 3 5 10 20 60



+ test =

Get acoms Chrome chrom - Lolite Kaolin -
Fullers earth, Ammonite, Cord lead, Kieselguhr.

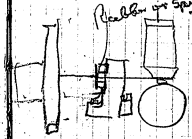
Wet dif powders + let them dry acc of
Cake together sufficient to record - dip
glass tube 1½ deep in wet stiff clay
If dry without cracking - if fragile -
if can record, then good plate

dry Paraffine, or Vaseline till when
Cold must hold together must be low
enough than melt & add powders +
Cast record by dipping
bottle, then Paraffine + Vaseline should are phow
in bottles Castor or glycerine, - Ty glycerine,
Camphor, Naphthalene
Wet powders with ~~[illegible]~~ Iodide Cadmium
& other powders that will cement powders
when it dries,
plain water best, - must get
free lumps + dirt, Cut fine

Wilson order ~~no more~~
matter would be [illegible]
untrue after Record [illegible]
Expt =

Try painting with a brush
milk of $SrCO_3$ over a porous
cup + dry see if chlorates when dry
also in alcohol,
Benzol, Ether – amyl acetate,
also in some of these dissolving
[illegible] + [illegible]
Naphthalene [illegible]
Rubber –

~~See what Hopkins done~~
~~just now before former~~ –



~~Both Reduce Fe_2O_3 from~~
~~work by producer gas from~~
~~Record plant, Keep H_2S out~~

~~Goldschm, See if can purify~~
~~Reg $FeSO_4$ by recrystallizing~~
~~2 or 3 times~~

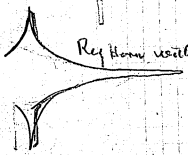
~~Grind up $FeSO_4$ + NaOH~~
~~work same as Ni + see if drive~~
~~powdery. So can reduce by~~
~~H_2~~

Make 2 flat pockets, add OH
residue to metal, wash dry
& recrystallize –

Have motor & change year of Lowry
Ber Schwingat so can get photo
photo of Electrode

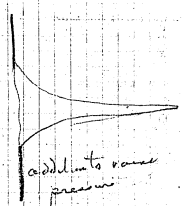
Wet with 1K KCl, LiCl, NaSuefah
(LiOH KOH NaOH) 1mg Cinc 1KOH.
NaOH + Chromatoid mix of all
3:
Wet with SrOH, BaOH, CaOH.
ZnCl when KOH, wet with
SrCl HgCl CaCl, BaCl when heat
with BiCrK –

Reading Horn

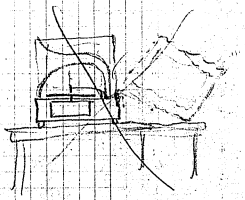


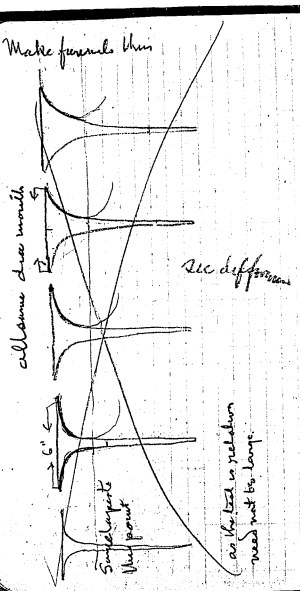
Ref Horn with chromatics
addition

also



addition to range
pressure





Patent remedies ~~[illegible]~~
Recorder – Single in Post Office

Mallory = Gotten very largely on Lumsden to me for fluid use – also ask know if cleared on book with Round, and if credited with interest etc –

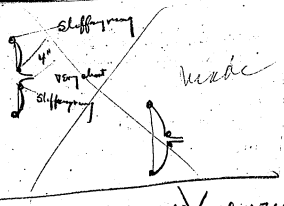
~~Greenly made some 1/1000 acetic acid fulmen for recording~~ –

~~Holland test bottle with Leclanche cell which dont go below Volt & keep it well charged so its always 7 to 0.~~

Burnstone Sulphur ~~is~~ used for H_2S can of fume –

Set up a Crocks of 4 with new dope on & stop it well with 10% & see how it acts – put in Holland Electric Coaches to get heavy voltages –

~~Have Chinaman stop from filling Cold water gas & it acts as a total loss – must stop them also loss heat with welded dope on –~~



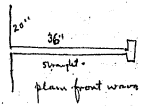
Need oil Sphit made platin on Chilk Tsf with 3 parts no de Cambridge

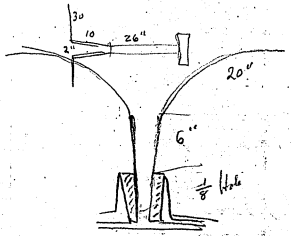
Vacuum Cleaner Section in big garage to clean Lop Cells - Bennett filter pump

Drop milk with Cell on Benjamin of pen incubator

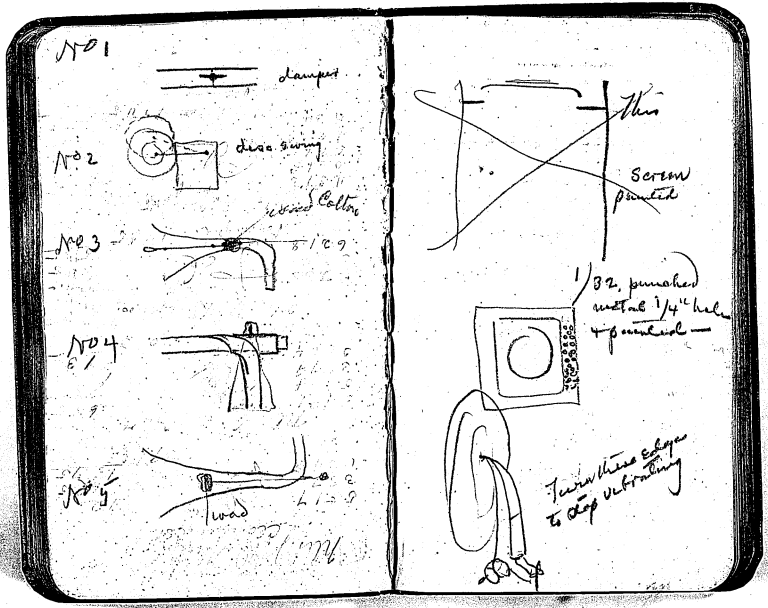
Chlorinate source of gwa Rear to get rid of phenol

Make 1/2 lb of SO_4 Nacl. on rolls - percolate - Tonat, ace of fine - reduce - cryst -
if OK make 1 lbs afterwards acid to Ralph





Nesling look up oil question
Crude now very cheap

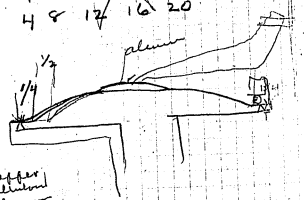

No 1
damper
No 2
disc swing
wire Collar
No 3
No 4
No 5
wad
Screw
pivoted
1/32. punched
metal 1/4" hole
pivoted
Turn these edges
to stop vibrating

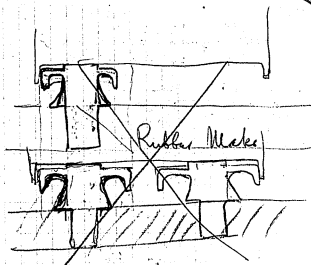
Dodge makes a tray with 1A4
with Bergmann device —
~~door bars~~ for drop leaf.

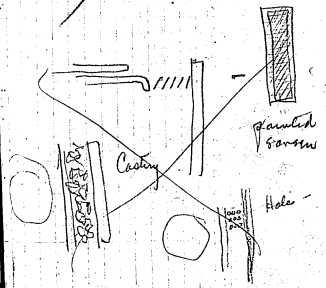
Walker — if break loosened screws
we take one off liners instead or 15¢

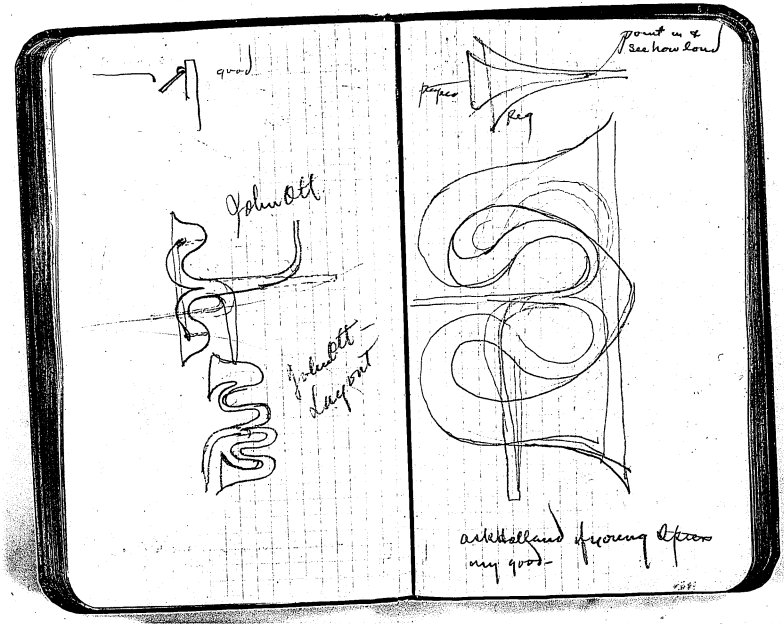
Wheelbrace

2	3	4	5	6
2	4	6	8	10
2	6	12	18	24
3	5	7	9	11
3	6	9	12	15
4	6	8	10	12
4	8	12	16	20








good
Johnott
Johnott-
Dupont
point in &
see how long
Paper
Reg
artistic and growing Opera
very good-

Pure Resin Chlorinated 1 hour
3 grams 3 grams Tetra nap 1.2 grams
very fine white flakes - Thin flow would
work fine in spinning - Tetra napp out
turns yellow - It's very hard - resist cut
scratch it - pretty strong - 10 times stronger
than reg Nitrocellulose record

3 = 1 Hour Chlid Resin
3 Tetranap
2 asbestos fibres -
Little too thick but after stirring it
was pretty liquid & poured it out but
too sluggish - Think 1½ grams is off
of asbestos - The bottles are very hard
or stronger - Can't break it into bottle
Think this would be worked but 1½ probably
be better - Can use any less tetra
too thick - It very difficult to
cut button, Think it would have great
strength Especially if asbestos with
more would not break out on deep
dents or up hill and -

3 Resin Chlorinated 5 hours
3 Tetra Nap
1½ asbestos - 2 t dont bubble like
1 hour Resin -
pretty thin surprised by more cured &
mix it better - it would work
ok & think -

1 minute after stirring in battery
jar of Triple designated detector dropped
out first - pattern thus started it up
stirring for full water & 1 minute after
stirring look consider point too on only
it got little thin ⊕ water - under
Numbers to ok but not as good as the very
fine - Think 1½ minutes would be ok

3 1 Hour chl Resin
4 Tetranap
1½ 1 minute asbestos - its
much longer fibre but when
liquid not enough to keep
resin in Tetra it goes in by
stirring - liquid ok for
Spinning then enough poured
all out from dish -

Nitrocellulose must melt Resin
add little tetra till
pasty bottle - brown then
add all of tetra

after adding asbestos it chills
the Resin & the separation from
Tetra but on heat gets up
it goes together OK.

Button hard to cut cant scrape
with knife - Cant break button.

3 1 Hour Chill Resin
5 Tetranap
1 1/2 Asbestos 1 minute

pour thin but must be hot to
keep Tetra in but to OK
Would too much Tetra, yes settled
out on top of bottom of Tetra
about right. only little Tetra
settled out on edge. It worked
OK in spinner - but wood later
hard - breaks funny easy
4 Tetra Nitrogen -

3 1 Hours
4 Tetra } works good
1 1/2 as

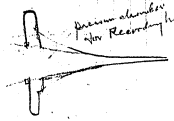
about 3 tetra or 3 1/2 poly best
to 3 Resin 1 Hour before hot
& 1 1/2 min asbestos

Required Resins to better than
Chlorinated resin - 3 Resin
3 1/2 @ 4 Tetra best with
proper asbestos

Crack B&S till its hard
then mix with Monsan also
with good Resin & Tetra
also B&S Resin alone -
Try Resin & Carbon one with tetra
also burned.

Holland about trying Reg
Cells with 2 minutes OK oven
stand for 3 min. each min from
fresh L, then change to
24 + go 2100 -

Speak with Dyer Dolan & get a cbt. Special cumberlands records hard material — worst of pressure but or all records which show how worn to be made in the special material —



Dipolegal Dept - patent on new recorder — also Cottonball modification —

5 Shellac
4 Tetra
2.5 Rosin
5 1½ mm asbestos 4 ply [illegible] of well mixed,

Try BS hard,

Premium under glass chan 1/32 flat edge machined 1/16 + very smooth —

Try BS =

Put Steel Stake reg mountain record + coat with 60% Shellac Tetra Zn & press —

See if rubber mandrel on Gallow pouring for long records

Put up 2 tubes 3 ft run 3 — change to 21K2 drop 4 hi 5 hi 6 hi

also drop dry tube on Cons hi thru 21K2 hi
ditto on 3 4 5 + 6

Fred atty may chalk asbestos, Sla
with powdered brunder's Rosin
asphalt sla hot to make base
to use mixed upon pin
Shellac in Salmonite B.S.
Mowbray —

5 Rosin (pine) &
5 precip chalk
for base can pour it
when well mixed &
hot about same as
our shellac Letter Zin
think 6 Carb Co well
work —

5 Rosin
4 Bag asbestos — thin
Enough — not strong
Enough but better than

the chalk — it is much
stronger than cumberal —
little sticky

5 Rosin 5 bag asbestos
little thick but runs
out of dish & makes
nearly flat cutter
think this can be
worked OK
Cut hard — very strong
& OK — little sticky

For Base for Gatts used 32 oz
Rosin 30 oz Asbestos sifted
through 40 mesh — to not
extra strong think can
use equal quantities
of Asbestos & Rosin

~~Stix to cover mould~~
~~hard put paper / Mixed~~
~~Can use in lieu of~~
~~graphite or bag of the while~~
~~mixing then inject the~~
~~Rosin Asbestos~~

Mould Woolen blanks for Retort
Wash Rosin Mould with ~~Flour~~
Bright Graphite underneath paper
Mould Woolen blue paper
fibre in white warm in mould
Try Sulphur melted Rosin
ditto Sulphur + Asbestos "
Sulphur + Talcum do Asbestos

Wax 12c	1.74.00	
Carbon black	.99.25	1 74 00
Sulfur	.12.00	99 25
Talcum	1.81.00	12 00
Labor	1.65.50	1 65 50
Freight	.45.00	45 00
pkg boxes	.51.00	51 00
Advertising	1.22.00	5.46.75
Spec Ex.	1.52.00	
	10.3/100	

200 pressing moulds
2 accumulator
6 Melting pots
4 paper cutter
6 Melting Kettles
3 Strainers
6 Ringing Irons

600 lbs Lac
100 Talcum
Stearate Zn

25000
20 hours

73 Bottom of Cell Rubber
mustard to pound
#100 lb = 3c for A4 cell

Mould test record with
some chalk in
dittto blowing in
" Shelle thin Mouten

Graphitizer 1/2 log def
& mm see of operator
Journals

Rub desc & for a
mark with dry glass
see if it shifts

Jehin Ott design a
graphitizer for 25 ocm
Records 20 hours

Rig up autoscale
oxker with bag
& spoon to keep
graphitizer ~~test~~

float fresh chalk &
try ~~test~~

float Acheson & try
test on surface

ask Legal Dept of
patentable graphitizing
Records of all
body ~~this~~ ~~this~~
of test chalk new
articles into graphitizer
Records

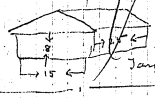
Make several grades of
graphite. Use Codrea mud
work only test,

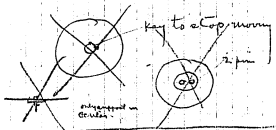
Ad with graphitizer & Lac
Petit company

Dolly

Get Tray of 6 Cells fit up with Rubber supports put on a truck & put buffer out & run against cold alone

Holes drawing from work Cloth House in yard





Look up Vacuum Pillows for Petri filter Cellulose

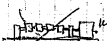
possibly 2 side holders in A8

unlocked of 1

Weight the Rubber mounted on cell =

gloss-varnished board blank with heavy stiff.

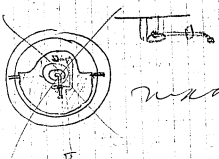
Rectifier.



not both ends resting on nuts.

Corrugate bottom of battery Cans to stiffen & prevent flat, Except where bottom go -

is corrugated.



made

Belgian blox
Wood blox
Paving brick
Tarvia
BS
Viscose + sawdust, also gravel
Coal non chips
Chipped iron blox
Asphalt
Lead,
Rosin Crude Pet + sand 1/4 stiff

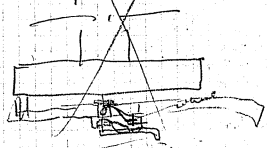
Have Allone boy look under
Micro see if any fine gravy
have needles

Put plumal in Moulan
Record then act on it
by gas Formaldehyde
& sunlight to harden

fix up plaid and Crate for
A8 for Cap by thing-high
mandelpin

Clak Brade Ahe can gwo
one in more — height —
dials field

Pierman with 1 1/8 done recorded
use 1/16 lead + attach without lanyem
to reduce complicate



Advertise Pdial 1 inch + in print
mention see the chart outline
+ Pa Tow gwo Michigan
Cleveland Chicago Detroit
Boston Phila Brooklin
Buffalo Pittsburgh Cincinnati

Doubtful to use the graphite bearing rubber on record.

Dyer-McCoy go to Victor & Pinedyepoint Cement —

When get battery stock transfer ~~Cement~~ to Mica fro. 1 million —

~~Give her 2½ of Cement bond~~

Give her more Cement bond — + 250 000 Phono works stock

See How mfg Co stock stands transfer sufficient Mica Cement

Have Gwen man Cement 3 or 4 screws ½ harder Mortar — a graft belongs.

get 2 Sapphire —

Shapers —

See Dodge & Hoz Mica Mould in Tools 3 or 4 grades of Mortar

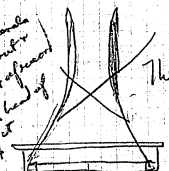
find out how Smith got along

See How Pierman ~~all off spring~~ worked

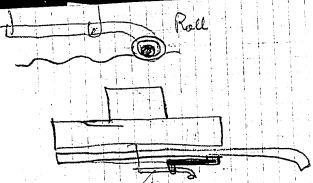
Gwz Weber Wilder Adopt about ~~Tah~~ Violin in this book —

Have an outside funnelled out to try wear of fibre

think further back are wearing at end or where top 1, 2, 3, 4 impings



See Weber after find Dia of ball used think too large dia cuts off top mills



make leverage 2½ to 3 to 1 to allow for spring of diaphragm using very stiff spring - Film worked in Mirrors on other type camera on it to quench a vent about jump after on record & blank -

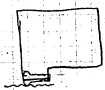
Lower Orth, get some good Tessy film Silver halide dry and Chlorin Wet - Dry then decantation dry & reduce by Producer gas at Works, or Coal gas -

Rent out dark room - lighting battery Clips from pumps -

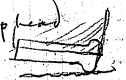
Gwen Colyn not make wax, test clear rubber in Monolam to bubble get out -

Cut Mounted in Mopflam dry records with 10½ Intake check to test feed -

Use test record with Baker on a Recorder thread to get 10½ X 100



or back up head



Measure of different chrinkage on test records 200 per inch

See Barber also D'Arcy & Bailey
See if can't get more weight
Letter Lavender & Gilchrist
want 1/2" or 1/2 more weight

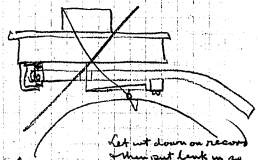
Get to Bloomfield or rub flakes
if he can put hard rubber cord
a pin or screw —

Webber Needle Syphon Uses

Reg Syphon turned off on each side
to .000 —

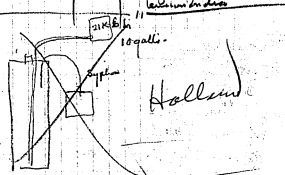
Get discarded Mould with
blond part & men &
pour in Tower def materials
Mould record with blond
in as it hardens rather
opening, or use Gerard Rem
& harden after removing
with Tonnard.

Get 53 moved to 70 hours
Petit gives a regular Monday
Record wax — Its see of the
harder — also Lac to get wear less bulbs
+ ball —



Let out down on record
& then put back in so
it just puts a little
tension on disc

The hose long among



See if 10% Sal hoc cured
put in Monday for spin
a Record —

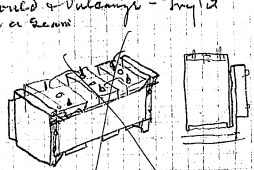
Get ald loud record mouse open a Montan Crude wt for wear test, spin other stuff —

Open a Tetralue with lot of Tetra
~~$~~ 75 Lre, 25 Tetra, 60 Lre 40
30 Lre, 70 Tetra — try in small
dish first to get hardness —

Patel pick decorate around a Tetralue record, Mick & Min paper —

Dodge about flat cap at
bottom of Cell —

Ask Stokes to send pound of
Hardrubber, mustine ready to
Moulded & Vulcanize — try it
on a Beam



Tell Dodge wax dept
Tetrachloride Carbon
150 Tahn —

When get Safer OK sure on
4 mm get a ball point race
what wear is with perfect
Trackin ball shaped wear
record hers —

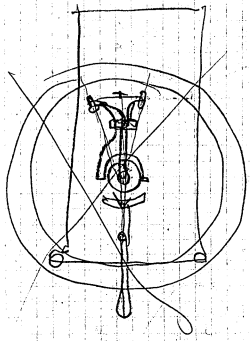
Try Hard Cedar / Quercite
Etc with Tetra wax to
get hard surface

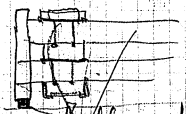
Get Saxophone in NY
since Electric adv
started —

Why not run Tahn 7 days
but at 23 @ 20 bbl hour
save coal —

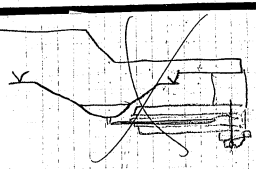
Colloidal sprays for Engraph
for inclusion Bakelite alcohol
H_2SO_4 - Dry under less
pressure than 1 atmosphere
or not over 40 c -
Coagulating by Electrolytes

Drop 1 grams of gum
Resin in formaldehyde
dilute with Eugenol saturated
with Hexamethylentetramine
Hot or glycerine hot.
for Silk - Test a drown oil
Resin [illegible] by hand -
on a gum Resin surface
dissolve 4-6 in the highest
BP solvent can find
then pour over to
harden superficially





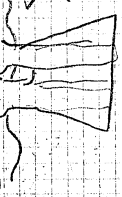
Rubber membrane for
Bakelite tray



Run 200 times on a smooth record to see where there is no vibration.

Send for Flehrman & tell him about Tetraethyl paint for his new work

2 together

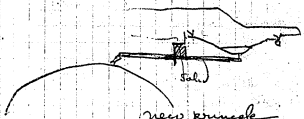


test all the acetate / BS for gold

dissolve 50% of the different asphalts in the ribbon & then chloroform to [illegible] — yes

Bail Tetraethyl in alcoholic KOH, or NaOH

Tell Premier to go to double surface speed & have his recording plane fixed up —

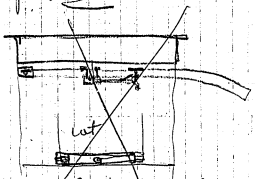


new principle like fork.

Speak - Acetoacetal Chloroform & Resins to stiffen - Edison try resins in best acetone-chloroform solvent to make stiffer 0015" film 2000 001

Ozokerite Asphalt by Hebrew till it doesn't melt – then Chloroform to

Ask Dodge of Lewis & Shepard Plates, Grades of Celluloid to Benjamin –



Rock them to throw in most the two balls on reproduced lever 000 only

Dry test – 2½ × 6

15 @ 20 amp hours at 100 volts lamp rate –

Pictures on depositing on Carbon or Ni, Manganese for Metals & do Or Hand for Dry Cathode –

Ask Hudstaff also to find a better Solvent for Zn than Ether –

Make a wear test on 2 mm Vulcan with Reg Grades for Roll production,

15 Shellac
5 Zebra
½ Zn Chloride } Petal Resin

Make Edgel guides for Wallace Mills for testing two records light wet also –

See Walter Weller about Variation in Records Size & Shape

Try Glycol Cement
Glycol & a Hydrocarbon
Try oils (Kerosene)

Try high ~~temp~~ Cap 3 Kab. one amp.
with Aluminum Cathode 1 amp + Carbon
for porous Anode for MnO_2 in
dry Cell —

Wagon idea moving pictures in form
lotions, 150 to 500 people cross with
away from RR —

Rig up Mater with Meter of Break +
Change resp cells (Dead cells) at
Double the rate but open the circuit
½ the time. This will prevent
Electric Corrosion, Wash not out of porous
of the Cell in Sec II also —
This is important Exp.
Try of To hm in gravity measurement
Time Long = 60 Second 4 or 5 breaks over

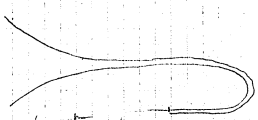
Change very fast but take short long

After new Crake test OK make one
for B4. Make all models
at lab for all Crakes + shape
Hold Originals in models
make drawings of also RR Crake
Make wet & dry test for leakage
When new Repair OK make
jarring test —

Heater make Squeal due to squeal
Eliminate the Heater —

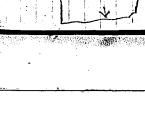
See Dyer Wilder to have
Wheatman come over for a
Talk —

See if Choke will go in ~~Wheatman~~ OK good
Try Glycerite Choke + Eliminate



Long Taper to soften the sharpness

Smaller dia. Dia for deck to
make go Easier
Very thin rubber between lever + dia
or paper or cork



Dodge makes me some records
less soft in several degrees to
wear less - these records are
softer than at first -

Try chromium Rec
recorded steel (?)

Archer - make 3 tubes 20 22 24 - 27
30 33. to test hardness + see
Capacity. also boiling scheme
20 22 24 27 30 33 -

Rig up spanning tube on Wurl
volume & bands for melting + working
with Wages -
developer & deep entrenched
way + Petit 20 below zero
here - a tougher problem

Pierman test new air 2 file on
very weak pressure

Todmen & Calvert should
take it from asphalt bezent
to commence it in colors try
powdered sulphates, to discuss
bezent to Commence.

2 Knob wheel for truck
4 spring to Knob -

Cement
Reinforced Cumberalo
Cabinet -

Try some 4c shellac substitute
for discs -
have Glen ridge press
Victor shake + try wear
if send over we try it.

go for diff disc diagrams
tos elsewhere -

Columns Labels 7 Cubes
in Ice chest only decoding
at 34 about using
def Chemo

When get zemmung Lathe make
lot of Medium Circle also
Reg Wrong mean with
Chalk also with some
Ice, Emperor - other things -
Test for wrong

Speak Opel about pulling
Manganic wrong in ceco
to keep cycle down -

See if Dire can be speeded to
140 for Opel recorder

Chalk telefone work with Lit de KOH
in wheel - dancers) Collards, or bed
in Dropperson

get a new book -

7/2 Ice chest Expt 5 gram cake 7/2
4 Nickels -

21 K 2 Li -	21 K 2 Li	1 gm KCl
23 K 2 Li	21 K 2 Li	3 gm KCl
25 K 2 Li	21 K 2 Li	1 " BrCl
27 K 2 Li	21 K 2 Li	3 " BrCl
	21 K 2 Li	5 " KCl?
16 K 4 NaOH	2 Li -	

All above with Bi Lites -

168. so upset by a miserable weak accompaniment

40016 is very much better accompd louder & bass some, reduced to volume of sound of the singer. Most of our accompts sounded this singer before you worked 8 miles distance —

40016 - by Sylvia wanted to good enough —

190 - Lecoq - OK - but think Sylvia better - accomp not loud enough fine record for disc — Lecoq has more music in his opera than all others —

173 Scarcely hear accomp Rather in 1st part

Tune no

40021 - accomp comes to little louder OK

Not room enough (back and drawers — Tops too light on records it pulls them out without thumbnail on edge, if pulled out cant get back —

altogether a rotten job —

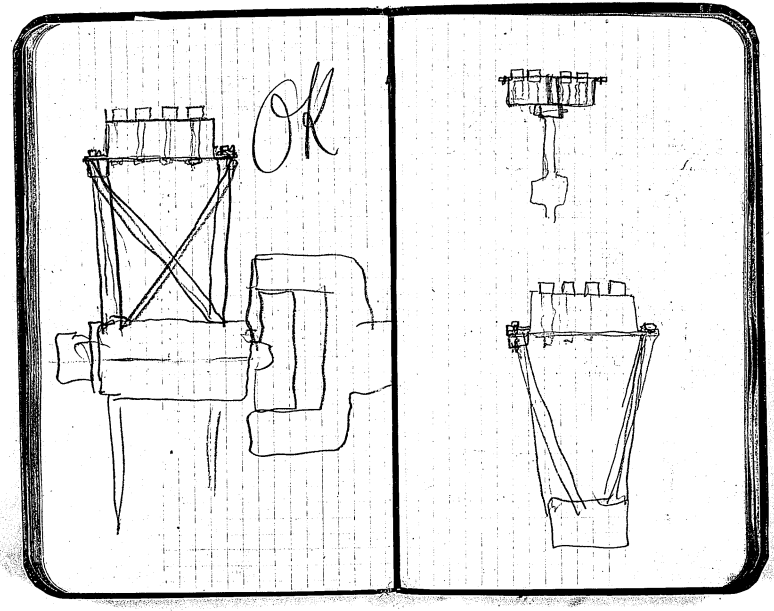
Records so high without perfectly level ~~catch top~~ — ?

35009 - as a specimen of pyrotechnics if you can get him on disc perfect you have the Vic ~~[illegible]~~ & rivaled to the barn door think Sylvia can do it better but Kurz is really good — tho no tune but pure pyro

513 Bund Stroud Mendels fine with Bay Orchestra

209 OK - Band - How abt orchestra
160 OK Band " "
8 - OK on orchestra
How about overtures perhaps
we have more room on
disc
577 OK
381 might be good on
disc if person was
OK
330 OK
544 - good possibly
Violoncello instead
Harp better there are
several serenades
by big Composers one
of Schubert's better
than others

Place for Stamping


OK

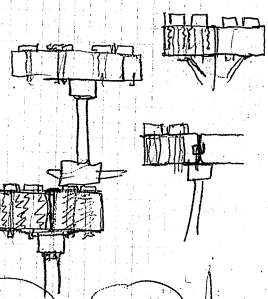
EPC

notes recvbl 22.106
accts " 206 754
Cement on hand 280 000 bbls.
Cash 60 000.

Notes payable - outside
accounts payable 141 732
Mdse notes 123 076
Notes agent Cement 220 000 (discounted)
Quinnimont 2nd note 43 540 (discounted)
Notes agent Cement sales not yet paid by JAE. 116 374
Dracolon Nitro (not E) 161 860-
JAE notes 712 658

Note JAE endorsed 263 540

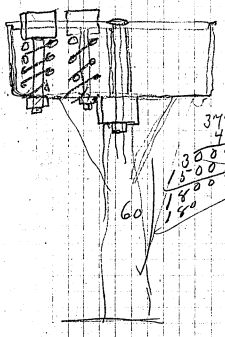
Kimsdale Sales
Week ending June 26 $12.086
" " July 3 913



20 210 | 300 (1428
210
900
900
900
900
900

250
127
375

60



345
45
3000
1500
1800
1800
300

60

365 fair
117 - fair for Piccinno air -
93 fair if by a large orchestra

40024 - Pianoarad. accompaniment alone by Landi good record for disk wants more defs (ID) values in the orchestra -

speaks lively no margin put reverses on clips we drawers bellum boxes worn out

185 arial fine song, fine thin bass line, bender hypolesbung Can this be a tuning disk?
Piccinno - Thy air -

Blanche arial - worn in the wax too shrill - Sylva OK -

40017 Delna too warm -
Sapphirous - OK if fuller and decent tone -

194 - Sylva OK -

Note Orchestral accompaniment to be made in future
Sylva Lately OK -

125
125
625
625
3125
3750
39062.5

390000
1.600 000

39.000) 1 600 000 (4
1 560 000
40 000
4

1310

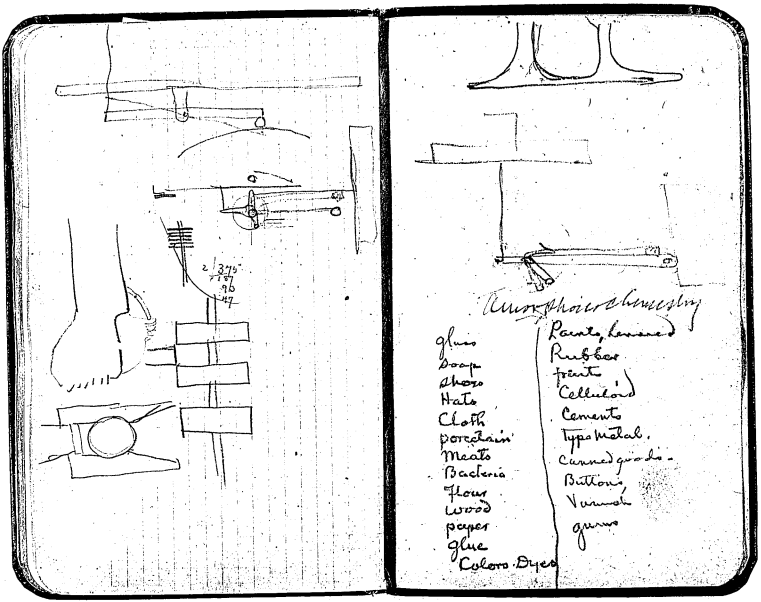
62.5
310

1300
1300
0 9200
1 690000
1 690000

100 lbs NaOH gives 349 lbs Na_2SO_4 10 H_2O
100 lbs " need 86.5 " NaOH
100 lbs " need 100 " H_2SO_4

24) 240 (10
12
20
24
6 15

24
6
144
18
720
1440
2160
2400
192


2 374
197
96
47
Amorphous chemistry
glue
Soap
shoes
Hats
Cloth
porcelain
Meats
Bacteria
flour
wood
paper
glue
Colors Dyes
Paints, lacquers
Rubber
tents
Celluloid
Cements
Type metal.
Canned goods
Buttons
Varnish
guns

South Egmont

15.00
.44
6.00
6.00

14.80
.44
20

15.00
6.60
21.60
1.20
4.32
21.60
25.92

130.00
75.00
55.00
52.50
2.50

1.875
15.00
3.00
19.875

Notebook, PN-09-08-10

This pocket notebook was used by Edison during 1909, although the inside front cover bears the date of April 28, 1919. It contains notes regarding experimental work and other tasks to be performed at the laboratory. Like PN-09-07-20, this notebook indicates Edison's renewed commitment to work on his phonograph toward the end of 1909. Among the experiments described are many suggesting new materials for phonograph record blanks, new reproducers, sapphire and diamond styli, and recording apparatus. Other entries relate to musicians and musical instruments for recording sessions, motion picture marketing and distribution, kinetophones, long tubes for battery electrodes, paints and tints for cement, and the cost of limestone. Also included are estimates of Edison's royalty income, along with reminders to inquire about the value of his property in Glen Ridge, New Jersey, and to check on patents for cement kilns, storage batteries with lithium hydroxide electrolytes, and new natural and synthetic materials for phonograph record blanks. Among the individuals mentioned in regard to experimental and other work are Frank L. Dyer, Otto Groethe, Daniel Higham, John Lansden, and Dyer Smith. The pages are unnumbered. Approximately 160 pages have been used.

PN-09-08-10.

Final Cut
April 25, 1919

In 1904 – Tons of lime burned in Tons

Conn	47	000
Me	186	000
Md	116	000
Mass	68	000
NJ	35	000
NY	101	000
Pa	567	000
Vt	39	000
	1,159	000 tons

Soapstone for grinding near Philipsburg
Value of ground Talc used in mfg
paper is generally $17. per ton –
Pulp mills are take Talcum or mica
ground. Fluorspar $60. Crude
$18. ground, imported Fluorspar
runs the Ky stuff a close

Pa Salt Co using Cryolite have
4,000 Tons Fluorspar per year
which they need to stock
furnace Open hearth

Gypsum deposits on G.P.C. water frontage
Ledge from finely ground plaster Paris
mixed with Hydraulic Calcine -
Known as Keene Cement

Barytes in ground to
unspecified amount under Eng
Bulwarks Longs.
production Crude Barytes, 67000 lbs
Blending & grinding 31 acres
Prices f.o.b. 25@ to 17@ 12 dollars
Ton - also unpatented 5000 tons
ground

Shale & Slate in ground to
fragments 500 million tons year
worth $10 per ton -

Flint in ground 10000 Ton
year reduced to 11000.
Pa. No have mines principal ore

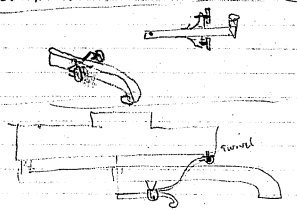
Fledspar ground 25000 Tons
Value, Crude 3½ ton ground
$8 Ton Mod. Simple ore
Pa. Ton allum & [illegible]

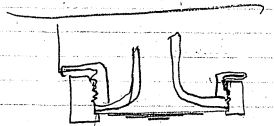
Why not crush Dolomite nuggets
at Cement works
for ballast & Concrete
also, smaller nuggets Road &
Crush Chrysotile hardest Rock
for Nth ballast,

Collard Concrete for fine
work around the Dolomite
Clay in with Cement
Clay in Seams at Reservoir -
tinted or plain -
& Figured Concrete,

Indoor prices for Cellar
Concrete blocks along D.P.&W.
Flowers & Lilies might make blocks
from Dolomite cheap.

Get Copy Kiln patent (18) Coal
that Maxwell owns —

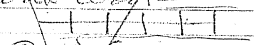




Small Lathe
10/000 - soft brasses around Expo
foot clamp —

Ask Wallace Miller what he
thinks of using a 7/000
recording Knife + some of
reproducing for big record

In long iron tube - put the
cloth tubes stop tubes dolls
filled with wood —
also



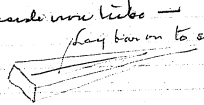
sand stoppers —

Close with diaphragm + put under
air pressure

also

also

put cloth tube
made now tube —



Lay tow on to stretch it

Reg tube made
oval + moulded + lamp rod oval
then rings on oval this gives
chance to swell to circular
John make lamp moulded —
use reg tube but oval —
B. fl B. gram + 33 1/3 —

In those tubes Holland has
that gone bad ~~any~~ tore hole
1/32 + force in a split nickel tube —
See if get back Capacity

Get local Real Estate man
to determine value front lot
Glen Ridge — ~~[illegible]~~ H Miller
find out Coast property on sale
remount apart for up building
water closet property also
but not Garage Engine
etc — + answer Brown
lowest price front lot
+ Option on factory goods on
long as possible at lowest
price — if want take part
payment how much down
you take on West property at
4 1/2 % —

Mallory about crushing Dolomite
for Holland Concrete + at
Rand Dyke for B.W. Holland

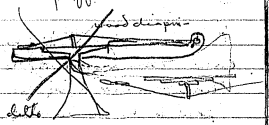
from Lehigh Valley Ft to NY Bay 15.2
to get to NY Dock 10.0
25.2
wood 26
Hudson River points to NY Dock 15 c

Costs 5 c more to make cement on
Hudson River - not so good
slow setting
Magnesia checks with Indian Lime
Cambrian Steam Shovel

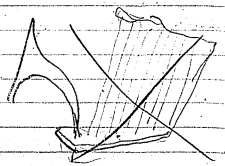
Rd Cum add 15% from steel
down with his muscle Ni -
Have him do it on some st
test it with the Reg from
which he used muscle -
got 14% from his funds

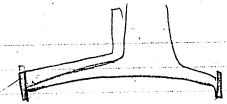
" Lead pipe made also 5" thin -
Steel pipe 1" also heaviest wall
2" steel pipe funnel on end
big 5" steel pipe bec of makes my
def with flame at back end,
Saw 5" sqr wood pipe in 6 sections
& manipulate.
5 or 6 lengths 1" glass tube butted
together to buy effect smooth walls

Violin -



Violoncello bits





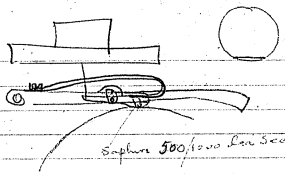
Rubber

Goldstein made some Bi hydroxy
So Can run with green to
make a ground
with Oxychloride –

Goldstein to get right
alcohol make NiOH dry
a ball & determine, heat
requirements, also set up
Cell, test NiOH, also to
save the $10H_2O$ Sulphate –
Look up record of soda Sample etc + runs

Drying green mish

fill full +
give not.
Bring to
Bally Com
E 15 –
steam heat reflected
Vacuum in boiling
water –



Send for some much cooled down
Think we have Carbon not cooled
down –

See if have any 1164 with Bi flake
also see how 719 compare with 739
with Bi flake –
Ask Goldstein to try 70 gram
lot proportion + 2 lb big lot
with Oxychl Bi process

Find the green cooled various
lumps Ni + drop with Reg +
Bi flake –

Try Sound Meter with a small funnel & use rig. funnel gets some distance down lyn line –

Ott make Mouthpiece outlet increased in area equal to increase in area of dia over rig 1.5/16 dia & use funnel in proportion.

Dodge make some flake with ni 1/5 thick. Clean the 2 min so Goldstein Compt on twice the Bi I

Mix Oxycel Bi with Bifl to make balls –

Ask Goldstein what % on flake Bi & get increase in thickness

as canvas absorbs sound strongly try recorder dia with cloth on it made chamber to absorb more of energy of the sound waves & not reflect it back –

Sand & Viscose block, Horse & Road making RO how Viscose solutions with Portland Cement

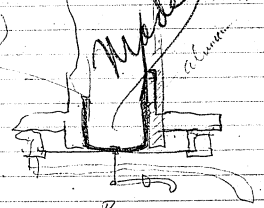
Hang big 3" tube up by 6 or 8 suspension or lay on sound perhaps it vibrates less or along

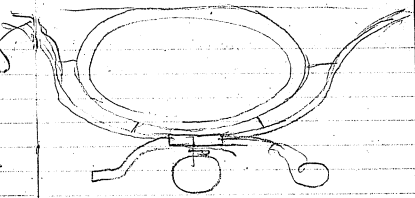
glass funnel for ground floor 1/2 thick at end 1/4 where smaller

Dr. 9. Ammonia combines directly with CS_2 to form Sulphocarbamide.

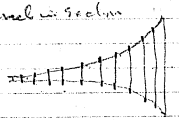
Sulphonaphthalene — action of Sulphuric Anhydride in fused Naphthalene — crystl for Alcohol in nodules, tasteless & inodorous, insol. act. 70 Cent to a transparent glass — Phoms Red

Bromos Eosine 6g fraction decomp at high Temp





Cut the 2" Iron tube in 4 quarters & form with tongs see of the joints, if so then Cut the Big tube in 10 pieces But then with paper compass & draw Cycle with rods — If the sections that drop 66 l. round then make up a funnel in sections



~~Speak to Halland & Dodge~~
~~about 3 middle non plat.~~
~~to have 9 prns or 10 q~~
~~2 outside same as now~~
~~from 25 to 4 oz more fe~~
~~to get better results & useful~~

get a Column note -
Record for Expanding
on funnel

WR Wills
D. Summer Rounds
Summer
176 Summer
Lapidary

Aug 10 1909
John Lavria & Son
Musicians
252 Bank St
Newark

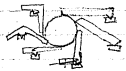
Carbon button, gold leaf laid over
flex talk against the Diphone Reeds

possibly felt laid over platinum foil -

It seems that all tubes & funnels
take up the vibrations + prolong it after
cessation of the primal vibrations &
thus distorts quality makes it
& complicates the wave record
What we need probably is
dampers which are free to
jump from the matter of which
the funnel is made to stop
vibrations when primals cease
there must be lots of them

Aug 10 1907

to present room colors records
should be taken in a tent
or open air —



also possibly sand around funnel
or tube will do I

A funnel made of Canvas &
wet with anhydrous of Cyanine -
or a very heavy liquid Barium metaphosphate
of Cadmium or heavy Chlorinated
Substances, felt also.
perhaps a semi solid viscous
substance like BS thinned down
& soaked in the Canvas or felt
funnel or tube -

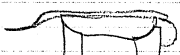
Aug 11th 1907

2 Each	4 f	36	4 lb	4½	45	
"	4 f	48	4 lb	4½	5	
	4 f	60	4	4½	5	

Drop with Bi f

Has written made ~~group~~
from Iodoform Oxyfall & Bi
flake ~~[illegible]~~

Leather funnel - soft
Gelatin funnel
Oleate Mg or Al funnel

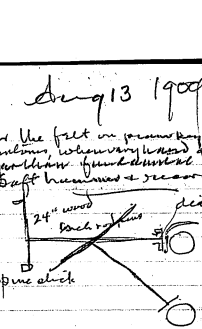


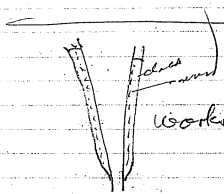
Test Rubber

Bottle filler

Aug 13 1909

Have the felt on pressure by hooks
the overtone, when very hard produces
stronger than fundamental
try soft hammers & record

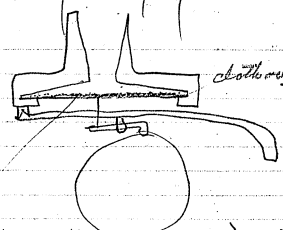




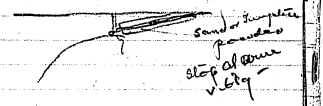
glass tube 20 ft surrounded
sound is perfect as zero or
661 seconds —

are now making Big
Double sand funnel

Aug 13 1909



X are balls of tungsten or fine cardolite
about 5/1000 dia to make the
dia alec over stop & vibtg
in sections or equal or nate
or strength Jerry note in
rotund if in tone



Telephone ~~Dans~~ Dan Walker
too small out Tonium

If fundamental note of a stopped pipe is 100 1st overtone is produced by 300 2nd by 500 and so on 1 3 5 7 9 etc
Open pipe 100 – 200 300 etc 1 2 3 4

If pipe in tune with 100 vib
then pipe being 10 times better Could or another ~~the~~ of and 10 time the length of Column of air would be required to give same note when vibrated longitudinally

Open pipe 26" long 256 Vib
closed pipe 13" long

The length from node to node is always half of a sonorous wave

41 Vib sec is cheapest tone used in orchestra
in a glass tube for 100 vib
the flag being 16 times higher relative
sound than any thing will be
16 nodes due to 1 vib longitudinally of the tube

There is a special nodal line around tubes when sounded by Savart ~~the~~ when tube vibrated longitudinally Seebeck proved this does due to transverse vibration

See How Schaff is getting on with big phone –

get 20 ft ~~5~~ stove pipe –

a to b wave 26 inches
back b to a 26
52 length of
wave – column air
requires to 3/4 of whole
or 1/2 of the Compressing
part of wave when closed
Tube need (10) 13 inches

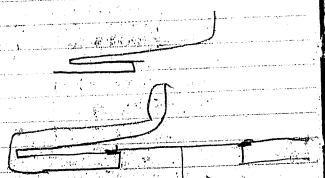
12 feet prevents every tone higher than
20 per sec

Get Microscope to look at Records
Look at Spencer's records
See if was delicate diaphram
Couldn't have been used see
if Lenderman jump out my phone

Order 400 lbs buckshot

Take Case up on phone Eggles
Stop drilling holes out -

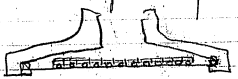
Look the Cup Speaker
If get anything Cut out
Chamber so pulley & Cogs
holds outside of Cup -

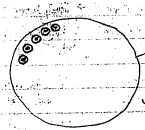


Larger chamber Reg dia. size
to make it not as a resel Nodes

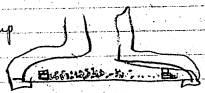
first overtone of a tuning fork is
to ½ time the rate of the
fundamental

Eggleston design recording device





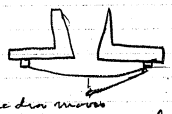
also cup



filled with balls too large to
go between device & cup or
ring there used to
dampen device.

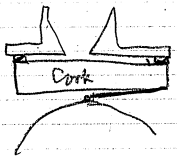
Get piece brass tubing used for Mercurius. 12 ft. or so for test –

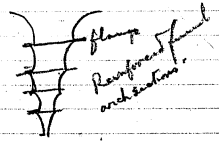
Recorder


Rubber

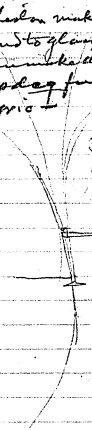
Cylinder drum mirror

also


Cork


flange
Reinforced funnel
arch section

Expansion make a shield report of the Blue to glass works ask if they can make this – Recording for Rep. Dog funnel Wallace III & Lyric –



36" funnel large radium
Curved – glass or perforated
metal
layered down into dark chamber
& that very close as
area small –
for Violin –
Let close with Rubber
gasket.

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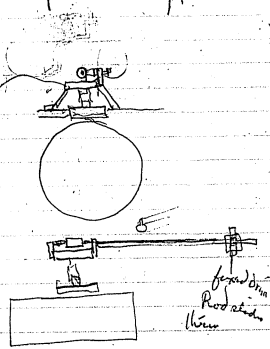
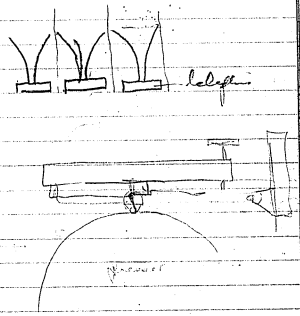
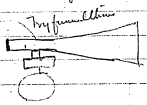
Emeq on Recording Phonograph



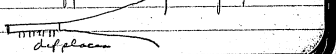
Try Emeq Carb Lithia, Oxyl Li Bi
Bi OH, also wet with Dextro glucose,
Li OH, gelatin + KOH; Saccharate Lime

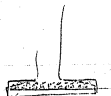


Scorum on 1181 Ni OH, 1481
on 2 cos Gum sango —



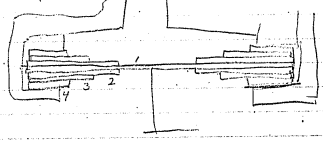
also def plates along already part





Carbon button
possibly thin layer of big women
do F_1 or a permanently viscous
amalgam

Mica disc to prevent excessive
amplitude



1 ~~W~~ 2
~~also~~ also double number of diaks
1.2.3.4.5.6 – 4 treble
1 2 3 4 5 6 7 8 9 10 11 12

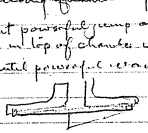
Increasing the bowing very slowly bowing
out high & low series semitones one demisemi
the power increase power of higher notes

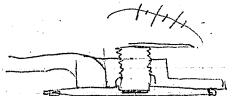
Rod fixed one end vibrates square of
its length 36" 4" 2.56 2" 1.44
step 36" 1 sq 1 per sec 12" of 16
3" 144 1" 1296
Vibly varies of a disc is directly as to thickness
& opp of dia

Sparks
The resonance chy do not permit the bore
so that a 5 ft wave part yield pressure at
fundly pressure falls taking dangerous
effect off pressure & probably produces
other vibrations – in light probably
should use glass tube of 3 inches bore
before pressure attached exact as the
this bowing out low notes total length
including funnel say 60 inches

To prevent powerful jump out use bottle
½ valve on top of chamber which would not
vibrate until powerful waves come

also





Tell Walter, percentage of recording knife between 1 — High angle always + compensate for jump, pitch & depth of groove too narrow — Hence must be tested off always check form of groove — ~~Q~~ New point V for beat in bottom radius or bottom flat

With 10/1000 knife in 200 lb and .675/1000 groove full width,

at 160 speed or 17000 inches per second speed in groove is 4 times the speed of decryphon —

Doctor hammers on piano when playing with pianola —

Jell Pellicer tested in 12 to 18 weeks 1½ or 1" glass + Hamburg records —

Get Micro to measure rules of vibration jump out on Kyclop the voice or records that jump —

What makes a chart funnel thin so that the wave say 256 actuals is 24" long condensation is that it gets to free air before it has received maximum pressure hence never can rise to full pressure — To get piano low notes must have 52" at that part like part funnel — ~~[illegible]~~

Make 12 Recorders like Walters
6 of
Each dia 1/16 bass dia — all 6/1000 mica
1 5/16 (41 mm) — now 1 of 1 4/16 (41.00) 1 3/16 (30.1) 1 2/16 (29.4)
1 9/16 (39.0) 1 of 15/16 (23.5)
The other 6 with 3/1000 —

Reg repeater 7/8 of oz pressure on ball —

1 ⅛ oz —

Rikers farm little Lake Hiers 1 to 1½ ~~mile~~ from Sparta

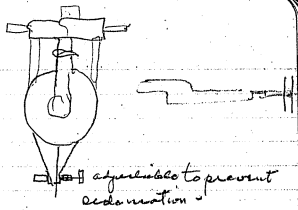
Hang Petit Compress in Hydraulic a while away maybe record we have much if which to —
Gets a Mountain Record —

Bell Pellet Feeder
Chamber damper regulator
dia to Cushion
ration short funnel
used prevent [illegible]
Regulator [illegible]
adjust Opening

Calcium on Connelly Pigtrates

Dec 1181 small Soda used

[illegible] distinguishe
Water up to [illegible]
of low loading [illegible]
heavy loading [illegible]



2 Tumes 2 each
I m prop Phosphomolybdate K
" Arsenate
Chromate
Arsenate
Antimonate
Silicate

Dialyzed Turpheated
for Eng

970 Why Coming up again

Try - Iron pocket 30 with CuO & see if Blue comes out, The high above reduce it to low as fast as it comes out, see if it affects Zinc below

Open ckt —

Reduce in Mr Wilder & Bradley Co the 6 perf plates which are to be filled with CuO this will keep blue from coming out,

Try Carb Soda in Nutt throw down blue

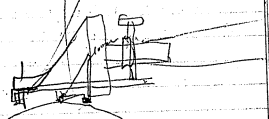
also R Ferroquinide

also KI

Gravity Squirt thick Viscose gently set through a drop film wide - with a setting agent —

Pierman use a 1/4 to 3/8 thick disk in Center also

also



Fred Old put the on with Osylum

or

Body - thus equal of the rod

anhydrous Na_2SO_4 neutral.
MP 861 Volatilizes at white heat
when ignited with $CaCO_3$ there is no
decomp $Al_2O_3 + Na_2SO_4$ no
decomp - if reducing gas
Sodium Aluminate formed if Silica
Na_2SiO_3 formed
CO doesn't reduce Na_2SO_4

NaCl to volatilize the Fe from Cement.
Na_2CO_3 for flux MP 814 C
$CaCl_2$
Orthoclase - Barium Sulphate
Litharge -
NaOH black bottoms -
Solid Na_2SiO_3, powdered
Lime water - Sat gypsum in water.
$CaCl_2$ sat water - Na_2SO_4, for washing
flakening of black.

Borrow a Trombone -
go down town to music
stores look at Mussiah
insts of Trumpet chorus

Get some 100 thread zapder Saphire -
Less radius - see what req to
their dummy 25 50 75 + 100 o/s
to get fine corrosion

Try friction repair on 100 thread
Tetranup -

Opp Miller moving trading
Rubber pts to Rig shop

Knips

See Dodge where to place
House

Put Case on Portland Cement
Paint Pigments are ground
for painting Concrete + also
Wood of formulae —
Get Supply Pigments.
Ultramarine Zinc, also to
Carry on Quick hardening
Exptes - under about [illegible]

Nickel hydrox Expts -
Reg up process 4 oz +
put — Cobalt oxo + dry deep
dish — Bi Cu ~~Fe~~ Fe Cd Ce
So 200 Mlg 2nd tube — Cr Mo W
Ur Co Au Ag Si Bo Mg Zn
Sb, traces, also Ba Soy +
other mixed Compounds —

To Remove Organic matter from
KOH, dis CuOH in then filter
Shake + filter Water Mercuric
Oxide to get Colorless —
also without Cu just Use MgO

3 — group - 4 f ~~48~~ green
1164 column 9 get it —
2½ Lb cot Dup 3
Dup 3½ ditto 4 ditto
4½ do 5 Lb cot.
Dump green Ulm flake
Ulm tamp — ZIK ZL.
Dup all above with
2 Lb 6 ly lot — Bi f

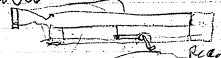
Get up Estimate Cost for
factory 2500 cells daily
Ultimately — including 6 ly
amalgam for tubes —

Ask Dodge what he does
about rubbers on filler
if Blinds bad our Valve
dont work + get leaks
KOH in air & loss dry
Have lot fillers with dry rubber
put hot water + leaks
use Case

Cancel

Sept 15 1909

Feed 066 –



Reconsider this way

Same angle as good Replaw –
X think this vibrates Turn up
Edge make it an angle

Wattle Mallow & Tang of Belchelan
gets it now was dropping out
Why not run rack of Cars
from no they taking risk
they have always –

Moment check Comes put
Case on it

Wattle Mallow off fol on
Cement blox idea do go
into it also running
& diminished on first running Kilns
20 660 to get 20 money

Get up formula for 130 M 660 month
getting Kiln running increase chalk
fine ground to work 1 shift 12 h –
433.660 hour 10 hours or 12 hour shift
155 tons chalk "
9 Kilns 24 hours 20660 "
all in good working order

Why not put through in Plank &
do plain loading. save 10 c
on tons apply same on 100 or 200
tons hand loading for furnace.

Measure threads per inch
on Mortar & Tetreinap
Records something wrong

Dyn-
If Lithium palmitate
abroad under
General Condition
also about nitrating Bergroom

for small friction wax for recording
use Stearic Aluminum + an oil —
also dissolve in Chloro or other Solvent
+ paint surface of wax cylinder
until deep enough — ask GWA
best way
Put wax on Rapid gold deposit
+ Cu plating so can use wax
low friction wax + would
it in 3 hours to test,
Try amalgams Dally

After get by mine newspaper
start in Chamber for Samples
stop jumping of Ball —

of Fuller's Spring
the Amalgam wears out
time effaceable

Sept 20 1909
Try varnishing Blackwax cylinder
with Stearic Aluminum dissolved in
Amyl acetate or other slow solvent
with + without oil to get a new
Tough + small friction record

Expert on Chamber for new
speakers —

Goodwin chear new Eng Record

Try a strength lacquer on new
Spider

GWA about Viscose +
OXZn mg as filler for
Veneer Eng Record —
policy not plaster Paris.

Possible Dam Viscose Mg or Zn +
Steam + Coloured Fac could Kelly?

Make by Ball's stop jumping

Viscose itself could be spun & dam
cleaned + taken out a spool on mandrel
best poly ZnO or MgO best, Carbonate etc

Make some Tetranap + Saturate NaOCl
+ dip mould at end cool + take out
then plaster pans —

Speak Dyer about Bally
patent Rubber in dye
for pressing pts are
used by Nicholson + Cohen

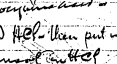
Chorlemen to work on
an odour that will
overcome Naphthalene

Treat flake in various
ways to modify surface
[39] + put up 2 bottles Cellu

See pt 24-1-1917

flake submitted to Chlorine +
Bromine Vapor to react with
Chloride or Bromide — spring
dilute Cl + Br in Gasoline
SCl_2 in gasoline — H_2Cl_2 gas
Made amide in $NaSO_4$ for material
treated Hydrocyanic acid —
flake in acid HCl then put in ferricyanide
ferricyanide mixed Cuttel also Ferri
Hypochlorite, phosphorus and

Worth put spring between leaves &
back



See of Board ok

Eggleston to make Long lever
to scale say £2.5 — do —
1000 step required to 1 made
a study balls etc for about £1 and

ask Dodge if some
oil doesn't get on our tubes

Dodge about 20% S.D.4 also
longer time on Cu.

Holland Eclipse has room
& fit up in grind style for
Endurance & Central Temp
Cuts 2 to —
Ask for Curve sheets
Cup and rating —

See if G have 24 36 48
if 1164 dump g than f
then temp —

Ask Archer how long
he been using irons
from Slovenport Mfg

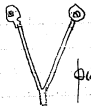
Ask Archer + see about oil
on Cups & tubes

Pierson
15 = perhaps big track weight
vibration action & reaction equal
(16) Reader Cup rebounds from track
less but whole don't leave way

17 — Side motions give jar — also
variations of power due to
side motion given by cut
adjacent,

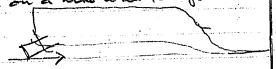
18 - Angle of knife causing
drag in it causes wave
thrown on dia by flow
Lord waves of Chordal
Run Curve selling defl on Cup + def
Hand knife — 25 perhaps it needs
one [illegible] can't be thrown in dia but it can be
in lower

19 Deep indents meet sudden friction
in going into way + then sends a jar
works back to die which is not wanted
its a sort of a rebound to due to
elasticity of way — Dallys or Gallos
elasticity of way — Dallys or Gallos
way recovering def waves —



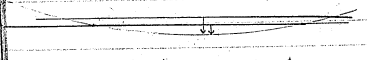
Pierrin proposed underneath

17 Continued the spring of lever must be on a line with knife



possibly should be below Center -

19= amplitudes of dia too great.
To check excessively strong notes + also too heavy



just as sensitive for very weak notes
thus length rubber pally does same thing

20 Its the Echo - following a loud chord - etc.

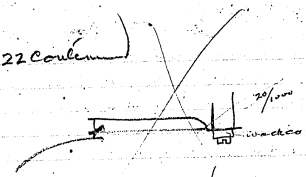
21 Supposing knife + spring of lever on a dead line - the edge of knife is below Center + digs in - try dif positions relative to the Center, tools cut above Center think the edge should be above center + fulcrum of lever below Center

So not dig in

22 - Spring of lever too weak the knife digging in makes a chatter from increased friction or worth thrown on lever by a chord

Now that lever + dia is balanced can have stiffer spring or very much shorter over.

22 Continued



24 Possibly if the cutting throw walls on long chord and a all speakers break to one side they must give a few false waves

25

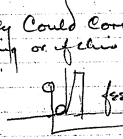
The link + arm not dead perpendicular if cut the slightest it will work a side. cut + together the speaker

Suppose this ok if knife not set a dead right angle to record way it will put a side or rolling cut which will give side motion to speaker

26 = Heavy chop cause dope to give it rings + you have a true dia motion + a dope motion. all viscous dopes give a little before they pull heard –

Dodge why not curl the flake strips before you cut into squares

Probably Could Corrugate before cutting or if thin stack flake together.

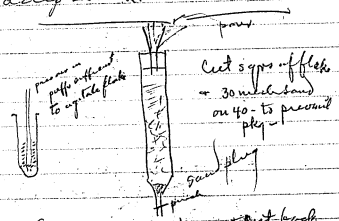


It is not a matter of infinite which cuts upon cut the least.

You could bend around a
2 inch mandrel cut
lengthwise —

Wattles Cruder — 48 grain 1164
2 lb Bi flake — 3 lbs
21K 1 Li
Dup — 21K 500 mely Li
21K 250 " "

Also 1164 48 — 159 f
21K 1 Li — dells 500 mely Li
dells 250 Li —



Simply wrap 1/2 hour + put back
to get air + circulation —

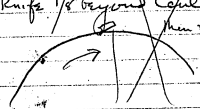
Obtain paper coated Shellac
1st pressed draft by rubber
so spring back when cold —
deep cuts — dells for duck spiral
patent new Jetra

Dodge 150 sheets or layers
metal 150 —

Wash the sticking grain

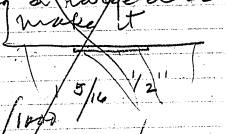
Pierman Irack + run over
Record come back + rebrack
+ plug piano
also try 5/000 Ambrand
Knife on 100 thread plane
Track deep alone on
Aluminum Lofter Record

Set knife 1/8 beyond Cylinder
then no dig in



Study Chips from Records
see really how Knife works

2d Possibly there is Po
Molgms to dica from,
not having a large disc
in Center make it
thus



both 6/100

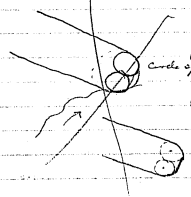
7850 Circular Mils of iron Po
Milgram

2d Picam

Spring must be
cut Exactly
~~with [illegible]~~
proportional to Dia

Whiten a Record. Generally
with Vapor Sal Ammoniac &
Reproducer also see how it jumps

Have a reader point made



Made

Walter got some fresh Cals
S But flake & make 2 Cal
Cells see if flake OK —
It may be Polgms Mg in Legard
Caused Mg to reduce Ni &
make bad flake —

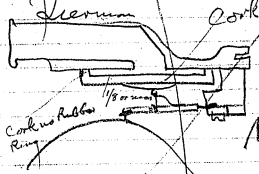
Smith about W. Ratchet with 4 tooth or more teeth so will not have to Ream for M. Machine

Tell Dyer about 3rd Notice from Way to put for escape on 10 5th axe

Retry the 3/1000 Celluloid & see the dentist to all differences think this is coming real so good as 6/1000 celluloid

See if old John clock can be rolled wider by heat.

See photo department of he is ready to put Emulsion on old clamp —



Have Wrecker fix up long tube machine to dump film & Tank also to have an extra Tank with the loose weight on it may be that Dodge loose will act dif from a solid tank

Have Archer make 2 tubes each way

Try in new replica Corrugated Dia done
wet & dried in moulds,
Try Shellac Naphthalene also Talcum &
diatom out Mag or Talcum
with a non solvent for shellac
to get a porous diaphram

Dia Inverse + MgO, dry + steam &
then heat with acid to remove
MgO to get porous dia —

Try Gum + Syrup dry glycerin,
dry & Corrugate — for Dia —

Set up 3 each 854 — with
1½ Li + one Li —

Make Dia Cork with 1/16 holes &
paste paper over to cover holes

Pierman Try Corrugated
Hard Rubber to cut cord

Cut 1/32 wood across grain
spruce, White pine Hardy

Corrugated Blotting paper wet
& dried in press —

Try Spun hard ~~record~~ rosolenal —

Cork cut $\frac{1}{32}$ 2 of them + one put
over the other + cemented by
Strathena, pierman Rosin BS etc
to stop holes
also 1/32 Coated with thin
film dope.

Make flatten out wire
+ hook in bent
lever + Dia so no spring

Equation Determine angle of
lever on wood model

Dodge 6 tubes rings on light
rings on loose as new sand
drop run —

Dyes abt patents
on Shellac Nap &
Tetra & new reports
Tuylinson Opening
Construction —
Willers, Berne Corn

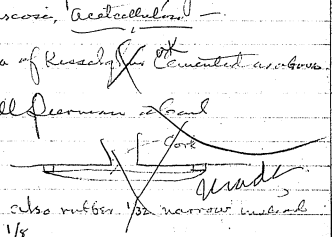
Drapers Solid Kissolgum
Lycopodium & shellac or
gelatine to bind —

Oct 24th 1907

Lycopodium
1000 grams Nat 60 ol salicylic
30 sugar 15 mucilage heavy
595 mod #20 alc, Ether Tinct of
Cold Liq. — Lock Logether with
film dope — shellac & Gelatin
Viscose, Acetocellulose —

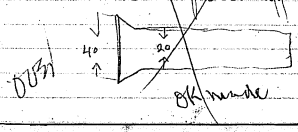
Dia of Rosedale ~~Cf~~ OK Cemented as above

Tell Freeman to find



also rubber 1/32 narrow mod and
of 1/8

Wilson - Make 2 of this Egg beater

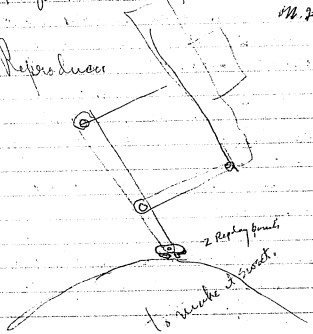


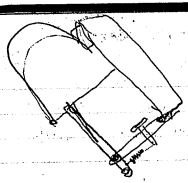
Oct 25 1909

Go away with Scratch –
to throw out material during

When get cash will use 200 (Wood)
Knife – Portland cement w/ 3 of M. 2 sand

Repairs Incr





also 005 needle weighed 13

Walter Dry 1 tube old way washed
green distilled dump of Hoof Tamp
also unwashed 854 – Cut open

Goldstein wash nearly free
Sulphide Cut leaves 520 NaOH
in –
also 3 5 7 + 9 % Bi
precipitated

Ask Dodge what he pays
for Oxygen – also Magnesia
price Oxalate –

flat flake our wash 2 tubes
as it is + 2 tubes with fl
acid treated to remove magnesia

Moyer to figure on Deschler's
possibly Column in place in the
whole - with good sectional form

Dry. ~~get some~~ Red ~~Red now reduced~~
if can reduce to Magnetic by
liquid cheaply reducing Gulch.
also some Heated reduced
Fe before Hg put in see if
Much Metal or what it is -
Try very heavy pressure on Red now
~~get~~ reporder see how loads of
reduced by Current, with or without
Hg -

Oct 26 1909

Archer - 2 tubes Reg bottle 180 out
then add def amount of crushed fines
then 150 - 4 make 2 tubes Each increment
see if loading up short go up +
also capacity -

Dry Try if acid and Sulphide K
will do Bi Ox or Bi Sulphide, + how
overall summit acid will carry
summit % of Bi.

Send to Wells crushed 200.
Thread Daughers to get
diamonds -

John make a grid thus
Reg Fe pocket but 3 wide but 6' compartments
fill with Fe + compress 300 others
+ Chg See if holds in - to do
away with pockets

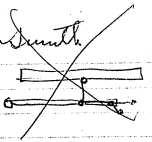
Dry Carbolic acid in Viscose
then formaldehyde or dry
the Carbolic Viscose then
formaldehyde + steam.

Bismuth Citrate Sol. in alkali
Sodium do
Bi precip by NaOH if glycerine
is added precip redissolves
NiOH dont dissolve in the
alkalin glycerol sol.

Bi Na pyrophosphate is
probably sol – not sure

Monosodic pyrophosphate dissolves
a rather large quantity of Bi oxide
also. When Bi hydrate is washed
with Na pyrophosphate a
double salt is formed

Dyspepsinth

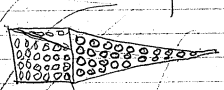


Patent

Bag for cough in pocket

Tea Oil make cup for 17/16 19/16 19/16
13/16 15/16

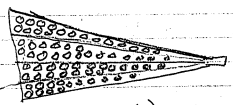
funnel to tone down fundamental
waves without diminishing swell



funnel square + formed of any
wood with holes 1 5/16 dia same as
Drum board over whole surface
+ Coated with wet drawing board
paper + dried to make it light
over

The height of wave will be diminished by doing work on the diaphragm which will return a wave to funnel + also wasted on the bird. The weaker waves accumulate overcome inertia of diaphragm + will record —

Also

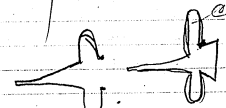


Cone — wet paper stretched over

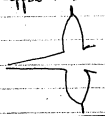
Make a 36" funnel of the thinnest paper possible — round also

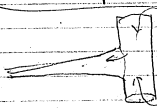
4 four corners

for recording waves (wind this



to get up a pressure —
to stiffen wicks this





New idea

When compression comes it compresses paper outward long above paper thin wooden rod
Rotary — hence help + prevent slipping

Try some flake just out of the blue liquor. (Not centrifuged & dried not washed before drying —

Heat flake in Hydrochloric Acid great reducing agent.

Hydrogen.

Hydrofluoric acid

boil in sugar + HCl.

" HNO3

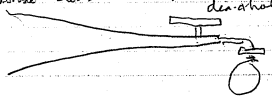
Plate with Cu Ag Co Zn Fe. Sb, ~~Sn~~ Cd. Pb.

~~Prove the tin plating~~, Boric -

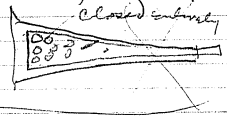
Arsenic acid,

Iodine ~~Br~~ CP, Hypochlorite

Chlorine water. dis-chate



Wulfe washe tube with 179 f only then recovers & washes 2 times



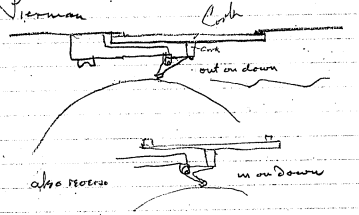
Dryer about growing Bryum a good vapor & heavy bodies along new Reader Wake it big Quakers, to go into Mahon Bric Co on 80% no 20 to Co.

Make flake iconde in HCl, for short time,

Heat flake in $HgCl_2$

Idea to make 2 or 3 Records of Zelva on smooth cylinder & have Fred OCC turn them off - to record on -

Pierman



Make but heavier metal

for recording - size as now - one 3 ft & 1 6 ft long - hold to same lager

Wholesome 1/2 records out of amalgamis - of OCC - for recording

Pierman Thicker dia & increase leverage in proportion - go as far as you can

Weber not wanting other than R.H.T paper pkg -

Gravely predicted Bedfordfeds out of it altogether to get Water white -

Get new oil of Nabh, -

I see how much Fe in pulp -

Already
Sulphocarbonic acid by
Decomp by HCl of a Sulfocarbonate
of a heavy metal, H_2CS_3
Yellow oily liquid thus may
be better than CS_2 to act
on Cellulose K — Gmelin 3, 8, 76
tells abt Sulfocarbonates

is CS_2 act on K in Amylic alcohol
forms Amyl-dianthocarbonic a
~~etc~~ by decomp it with HCl
get pale yellow oil

Try Iceland Moss & Cellulose
— try alike Carbolsulphite with NaOH & CS_2

Dextrin is isomeric with
Cellulose — dilute glucose
Try both with NaOH & CS_2
& make film perhaps
may not be brittle

Try Cork — pith, agar, Irish moss
starch — Cotton seed shell prod cellulose

perhaps Cupric Chlor Sulfate
would dissolve Cu warm if air
blown through liquid while
hot, Dry

Sol K S. Picrate made by dispersing
Molten S. Picric by blast of
air or steam,
Wm Gossage & Sons Ltd Widnes
England own patent, write them
for specs — on K S. Picrate

Filly of NaOH & K S. Picrate for Dry Cell
mixed Cu Dry Chlor & MnO_2

Get the Radium from Holland
& Anor Lons cell Cat
otns from Rumb for Electroscope

Kufar
Condensing Water 120 - Run over
brush in Bldg & pass air into
Clock House -
Hourly about running hours 1/2
or 1 1/2 after this is done

Galbstein - in looking down green
Save H_2O by condensing
also see minimum coupling time
in precipitant -

Margaret K ~~Orlando~~ -

~~Fla~~ Try Tungstobor in acid in
S Battery - Dead Islands
Salts Inorganic Sol 100 pts Sol
in 8 @ 10 pts H_2O

Glycerol + water - Try Sodium
Glycerate + CS_2 - Says Is
Viscous - ~~[illegible]~~ strongly to
dish -

Try K phenol + CS - Also in Islands

Sulphonates - acting on Hydrolene
+ mixtures - Petroleum Sols, Viscous
pulled out threads can
be melted etc

Phenol boiled with Perox lyd vapor
grows a vaccinate
Naphthalene Sulfo Sunline Sulfo

Gramley Dichyrese Moose Through
Coarse Material

75 Cubicft air well furnish
O to ox the Cu 5 Lbs and
a 15 lb tabak flake -
a Column 3X3 15 ft high -
see Dodge abt oxidate fm
Mangan

Br adds on CS_2 - see if $BrCS_2$ adds
on Na Cellulose -

Vascaloze is refract Lorka Cellulose
fibers of 10 wood together 18 to
40% on 10 woods Arrangement
better Lorka this wp.
to get t pure cact on Glass
Path with the Reagents
Try Cork Na & CS_2

Press the small Calcinde Lime
300 atmos & tab -
also try Reheating to
150 to 300 Cent -
Try ashing with Smp Cu

Ypwa Graphite acid for black
ice Hydrosapholac

Viscose film of Blueprint solution for
Position - have given test it with
a picture film

Melt Glenna a with the bases
sized from Dzff & those 9 has -
also Montan

NH_4 dont dep Cu_2O or CuO -
Try in Calcinde of Mg add KCl
or K_2SO_4 - The NH_4 will dis olve
the ZnO & Chromit

Try Pot Cotors, NaOH & CS_2 -

Purify CS_2 by agitation with Hg

phosphorous Anhydride action
Fresh phosphorous on Amber
white amorph solid insol. H2O
MP 87 neither acid or base
& not affected by acids or
alkalies in the dark
1885 Chem. Jl. 254-5

Gravity Squeeze/Celldoock
out between blotting paper
or cloth 300 atmospheres
& Try — also after this —
dry further in closed jar
with phosphoric anhydride

Get some gas coal for Cameron work
see what can be extracted
by dil. KOH & organic solvents

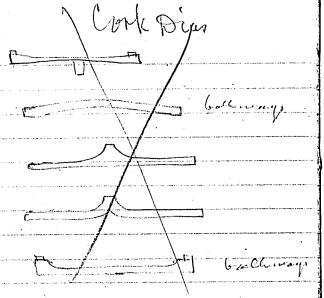
Oxidizes Phenol by K permanganate
MP 122

Azobenzene — a Black Resin
of tool of phenol in excess of 24%
aqueous NaOH be shaken in
the cold with Nitrobenzene
liquid turns red on heating
pot black after heating at
150° Cent for some hours
Na Oxalate salts out & azobenzene
remains in leaches degree
with Na2CO3

Premium Pay up one inch
Cork screw dry —

Gold Silver figure cost of recovery
of Ni from Mg with Oxalate
globules pay ~

Cork Dips

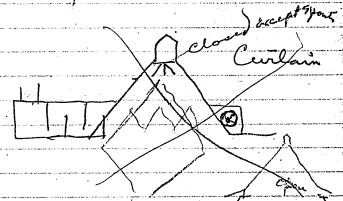


Drink a yellow record, Maying + see if proof tracks or is it jump out more

Plummer some of recorders with Knife -

Put some of the book that wouldn't Come out for Copper -
also put back in solution for several hours & then separate by small separator —

Holland Lactic Sulphite Na
Lactic acid
Rollan Formic Na K
phosphate Na K -
Greatly by Mercaptan on Na Collodion



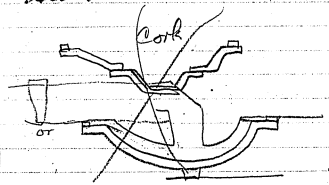
Circulating Conveyor on No 1
perhaps No 2 - perhaps want more air in No 2 that is high in heat, or a cheap Exhaustover baffles & plenty air -

Washer set up 3
of Goldsbrow removal 8.30
BG 0.48, 2 CBI 159

Goldsbrow make some
heavier yet with NaOH
NaOH, to get 9000
to get it pulled up 6
at 36 48 = 60 –
159 + B1 – dup 1 L OH.
also

6 in group 1164 –
Single Ti – 96 only dump
to find out greater or Co
left – 2 L1
Dup 1 L1 –
Dup 1 L1 + B1 – 2 CBf

greenish – purifying with alcoholic
K – also dissolve out with boiling
alcohol – also try 20% NaOH
def temp on the alcohol, NaOH in
Excess –



2 Rubber – rubber 1/2 width –
3 + 4 " also

Wesson –
Small turn table for cars run by motor
Can have 3 or 4 in tandem

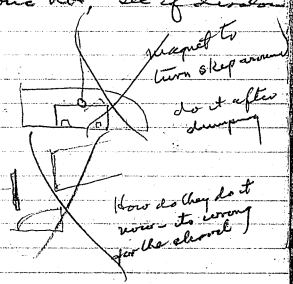
Dry Exhaust Cotton with alcohol
by Soxhlet, ditto alcohol then
Benzol, ditto Al. Benz then Ether

Exhaust alcohol then hot
alcoholic NaOH, – then
wash free NaOH, & put
in new NaOH, drop in
NaOH with Piece Na

Try following Oxidizers –
NaOH,
Permanganate K
H_2O_2
~~Acetic~~ Hypochlorite,
Nitrite K
Ferrocyanide K
Chlorine
Ferric chloride
Ca Hypochlorite

also – acid sol.
Chromic acid + H_2SO_4 –
Ba Sulphydrate depilatory –

The white hard phenol formaldehyde
most unmeltable product is
Cellulose in Nature
file some powder treat
with NaOH + CS_2 also
Cupric NH, see if dissolves



Dyer Bilbao Map pressed, not
leaked cheap box. 25¢ 60 ft.
If can get cost to 4¢ delivered
by fall —

Walke make 2 larger
Dyer funnel mouth
in Large Dia. Dec. 20
see if can get it louder
[illegible] — if have to increase swell
[illegible] expensive funnel to do so —

Selections from the Dyer
Drum.
4 in 342 — at home very
low & thin — ditto 332
Song Mount than weak
339 — Violoncello — low & accompanied
& can just hear — 333 Violin
Hard see how it Compares
with one we took on
good repairs —

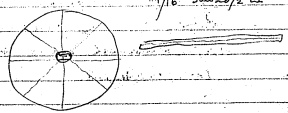
Dry chamois rings enclosed rubber
ditto 1/16" rubber tubing —
when using Cupped Cork
use

Grant to keep chamois swell

Make 2" plank box to
go into & revolving
shutter adapted to
measure Vol. of sound

Pierman — Burnt Rubber —
Castor Oil & Boiling 3 gal. bottle.

1/16 Sound 1/2 in



Look up Whitehall Tatum & see cost
2 gross 3 oz glass stopper
bottles – or the small fruit
jar tops –

John Ott to build us
grand ambassador Record
Taking Machine –

Harp solo 9500 – 2 min –

Centolz – Architects, usually
book. Story Ada in fine tops
20 jobs –

Fred Ott get fine grade cork &
make 1/16 cup but cork only
40/1000 thick also one
1/32 thick –

talk to Cement Boys desirability
of grinding 3 to 5% fines of
flint over Company's great to
get a grinder ect.

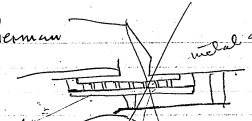
Fred Ott fix up Carbon Trans & Emg –
for trying pians on phone

Have Moses get Daywell to
see distribution of men
every where

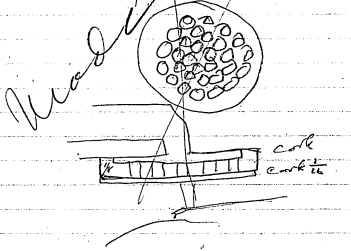
Dip tube in Sandbrooks Ammonia
Were put in Cell or run
Insal Kjeldh given off wards
apparatus slowly formals
Kod,

Gravity try oxysulphide Carbon
instead of CO_2

Pierman



Cobalt of upper ½ Cork Disc
Covers the plate with holes



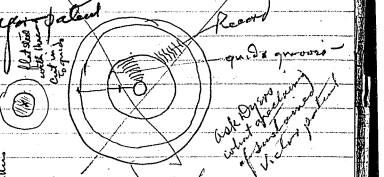
Generally use dog tubes same
K Cellulose also use mix.
If 15% CS_2 with Tuber and
much other vehicle liquid
in which CS_2 will dissolve

also one in which H_2S passed instead
of using CS_2

Dr. Y. dissolves Cuprammon Sol of K
Containing Dilute of Glycerin
then Collodion put in well
remove the Copper

Ask Harry Wilson Battery
Bonds are due

Dupont patent



Try 3 of Wright on Genee Bug
and report with cost disc

Fred Ott

See ~~Wisbar~~ or Kearns ~~[illegible]~~ man

Try grinding in checkmund

Like the Joyce hardness

200 Hardness —

Write Kung where to get clearance in Diamonds — ~~and find out who~~ polish diamonds in this Country —

Cork

Bellmont

Ask Dyer if we can patent a Diamond point in Combination with the hard material —

Fred Ott make frame for 2nd Dies

Pierman

1/8 dia glass lapped 1/2 1000 —

Dyer = If Victor wishes will not keep latest arrangement - you fellas look out they don't tie up all common titles.

Cave - Dry Fabs

Dry Ice Cut at Stevensville

Say Westy [illegible] chamber can flow lubricant

Cover also

Rotaid [illegible]
or [illegible]

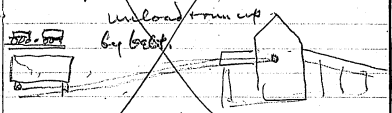
Write Wills asking about diamonds

See GWA - presently to Spunning
then can require rotaid and recorder
also smoothness - just as quick

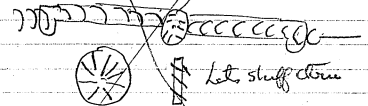
Make some Shellac Mop with
best deodorizers of
Christenson —

Cleaning Disinfectants
S Rose Co
12 John St NY

Remember,
unload from up
by belt.

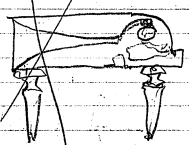


chilled deck



Let stuff drain

Evaluation Redesign and
Model



Make 3" disk 7/1000
Corr. 10/1000 - dep. Nap Shellac
Wear holes, see if OK
Try soak Blotting p + pulp
in Napsheltc. Coat - press
hot - then Re dip -
also Cotton Batten dipped
shellac & dried then press
Hot - + dep Napsheltc.

Generally - Treat paper with
Arsenic acid - soak it
wash free of them NaOH
also with Chromic ac -
also Try Boric acid, dilute
Phenol - Trichloracetic
acid, Lead -
Try dehydrating in Castor
a Linseed oil - also,
just to brown in air

Try Cutty Cellulose with
large quantity of most salt which
will dissolve out in fine
Cry to keep from shrinking
when drying - also
glycerine, Pyrogallic, Phenol,
Gelatin - glucose,
Caramel,

Try Oil gold all kinds Cardboard
Thick paper - Tappleson dries

Try reinforced plaster Paris,
wire 1/2 inch mesh No 20 wire
also Cement, sand + 2 + 3 to one
Very fine & sand with + without
reinforcement,
Crude Iodine with and
Cement Chalk mixed hot

powdered Wool & powdered
Spindelmia mixed together & pressed hot, from Montana & Calif.
ditto Sleeve cuff, ditto Al. Off
& Co., ditto S. Off & Co. -
Borden & Co ~~[illegible]~~ ditto Rosin Co

Dry Sulphur (flour) &
clay - ditto chalk, pressed hot

Viscose ~~[illegible]~~ stirred in
paper pulp - pressed & stamped
after drying -

Drop Cardboard in Wool
after dehydrating -
Wet drying Rayfloc

Powdered Kauri with clay
pressed hot ditto graft
Chalk & Kauri tough -

Map 1 shellac 1½ = gelat

~~Disc = 50 lb batch~~
~~scrap 15 lbs ground~~
~~Shellac 6 gallons 12 lbs~~
~~Drop black - 1½ "~~
~~Collan flour 2½ lbs~~
~~Rattling Stone 10 lb~~
~~or infusorial Earth in that~~
~~case only 6 lbs -~~
~~Rattling Stone Sand~~
~~ground screened 50 mesh~~

chick formula	5	lbs	
Reground chicks thru 50		17	00
Rest Bullen 1cc		17	4.25
Cotton flock		4 —	50
Dry Glock		3 1/4 —	5
Mix of water flicks			
Rotten stone + pipe clay		20	1.00
15 Rotten 5 clay			$5.81
10 cc lb		59 lb	
20 only 10% Rebuing		or 10 Record	
start mix 1 lb 14 cents lb			
Rubber rolls			
work syrup + add the shellac			
2600 lbs press per inch			

Dry Viscose, then see if
Soluble again w some
Organic Dyes in dip, Amyl &
Mercaplan, & others —

Form Pierce and Naphthalene
Compound, Cotton dessin
Gt O —

Waterglass 33 Baume Stir in Chalk
until Baume thick + plastic hardens
in 6 @ 8 hours

Dr Pio —
Glass Block Norwalk O

9/15 — Asbestos fiber & Schedule
Zodex Dyes for dipping —

Make point w Clear Viscose film
by Cupric Ammonium Solvent.

Dyes + Water — How about Glen Ridge
for this

Write Morris to tell me map of
where he has been so can put him
around Berkshire + Long Island Sound

Cement -
Things to be improved to get
Repair cost down —
RR Cars Remedy steel
Arbors on Rolls "
Logging pulley & Conveyor
Gears on Coolers hardwood
Worm shafts Lucky 125 126
Screw C Gulgarous
Locks on Crushing Gym
Repairs Bay Carbonal [illegible]

Arrangement of Zn Pb & Cu in
wash water flake Crane

Guldstein - precip
Mg with 1/4 1 1/2 1 + 3%
of all metals - Some
Organic - no wash
Get Load wt of
Be. Mg Ca Ti Cr Mn Fe Co
Cu Zn Ag Cd Ba Di Yb W
Hg Pb Cd Sn Mo U Y Th

Holland Small cell suspend
Radium tube within liquid
see if affect Valleyford
Capacity —

Lowell = flake flake
Au Tin Ta

Robt ~~[illegible]~~ by McCarthy
52 Wt Vernon Ave Oranges
Boy found Ring

Wolke Expert on springs
to assist design.

→ pulley angle too good
should be steeper —
Have Eng measure angle
on this from my
drawing —

Examine The high fidelity Reproducer
why it is so Comfortable — → Show point

See Dyer about Aitkin on Penny
J Ott make grinding mandrel for
disk = How about disk man
~~[illegible]~~ How he recorders why
not Ott make 2 or 3 –
+ see Dyer & Weber together about
buying tools in Canada and
Reg disk stuff – work up also –

Find out what Dally doing

How is dealer for TESOY getting on

Pay off 2 works Bol & get him
out & so can move down

Smith + Self Reder for McLoodd
Facing on plunger with rotated to face plunger

Walke make lever 1/2 long
by 1 1/2 in new Reader – link to link
but 1/16 rub possibly loose one end,

Marson, Case hardened gears on
Cooler to stop wear
Also send me list of work
Marked off what improved &
progress – correct back work

Egg design new reader for
Cylinder like new disk has thread
but first use some shaft lever as
on disk –

Take 2 off 1/2 Hg Fs + send to
RR to run them off + weld
heat as req now set up
to return –

Egg design for Pierman over
to new Reader –

Billy Bee stop [illegible] damage
[illegible]

Arches Troy ~~Expert fitting division~~ 24" tube for flake & green ~~also find green off~~

Put some Hc mud cement & gravel & flake together with water in rotating 6 tube rack of brighton

ditto in 24" mud mixed in hydraulic

300 cat morphine see if brighton or stiffen

Shake to flatten green, flake & dry 2 or 3 times — if good by 4 4 44 1164 green 6 tubes

Mason sent me a good sample of the big Dyke (not weathered) —

Crush down Dyke stuff true glass plate for Drachmann

Why Dodge? why are we getting 15 carbon Distilled water days for Strophanthus — why not get big still

Weather Arches during green

then flake 3/4 4 4 twice then lamp — 6 tubes

ditto 4 & 4 8 twice then lamp 6 tubes — 6 set up Cat one

Each then 8 days —

also 24 & 4 3 times & lamp

ditto 48 & 4 3 times & lamp 6 tubes

6 tubes 1 week to be cat open

use on 48th 5 L6 lamp —

Christensen & Cassler & Gum Kauri very thin & lampblack various proportions — ditto Cant strontia, ditto Iron white — for Pressman

Put flake then Roll several times not to brighten but to stiffen see if it want stiffer

Polish marble 3 tubes & Troy 159 Reg & 8 94 — also 3 tubes polished & 159 ll lamp & polish

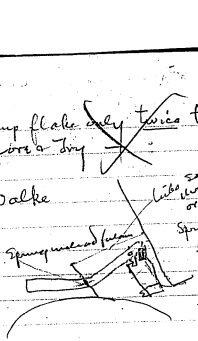
Jump flake only twice to pack
more + Try

Walke

like saw warm
wrench - ple -
or L angle

Spring to take up
load-motion

Squeeze-roller from



Makeway Edmund Lut Chem for
Holland - Holanka Eggs
Wells Dic + Wenck + Schmukert

Explain to Claude Oglyby
about pumping from road
+ abt leaving Wales, + Risers

Risers in middle Each
floor for pumping +
quick closer hinged lid

greenly - to stop crystalizing on drying
Try little glycerine, little gelatin, glucose
but tired of all in to get rid of the NaOH
not except that combined by using
alcohol or Sodium in NaOH as
then putting Coke in EtO + Chain
in Vale -

Speak Billy Boss Carver for 1000 lb quick
delivery wagon 40 Ah - cheap for Butcher - Dunnes
chief selling - plan -
great seller. 12 miles hard

Try Sand only to separate flake up + out
of Crock — or bottle get bottle that
one residue + Cant be separated —

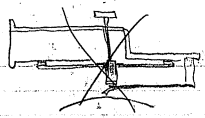
Clyde Ryan why we cant
Rent fellow in Argentine +
Australia —

Unpleasant Combine with Picro Ca
see what its like -

new Wheree put up on the McCellular
by CO_2 tns in "Abracadabra"
or potassium - spirit - dry bottom +
solvent squeezes out

Sump + hand pump
+ Lung + Cleaned clean
+ 75 Gallons

Pressman



Make test of Solutions that leave no precipitate (2) alkali or Cyanide powered Zn that dont dissolve — & not attack Cu_2O or CuO

Holland: try Wainquartz K & Na alone No free Na or K — also Phenylate with some conducting salt,

Talk to Dyer with Tourfort Boss about selling agents for pleasure Vehicles Manufacturing Lawsuit

Talk to Dyer about Tuesday up a big trick big auto all over US — 102 Small Motors Complicated + small parts — Get final cost — 12 demonstration vehicles 1 Tourfor auto —

disclose the Bomb Sequelum now on glass in hot H2SO4 see if needed in I

At New Rochelle on Long Island Sound 120 Sequelum & Empty Cylinders against Greene, 400 ft wide —

Prot the heavy (black painted) and Bomb bonnet of Chinese Rocks

Smith about rocket to hold temper controlled by cam on rotate wheel ditto Cam for feeding in fl + grease so quick change —

Req 7½ grid Cups + Scale of pressure use strip Zinc (Mg) + put up cells with Neutral or Alkaline Sulphate only the ZnO not dissolving try CuO In + strong Sulphate Zinc which dis ZnO abundantly

Walter Archer the rep. for Europe & pack in all the Films with 3 & 2 L3 4 & 5 & 6 1 amp & put up with 6 M - measure them after Coronation

Dyson why cant we print 3 or 4 of all our subjects. then send Copies to Europe, Argentina, Australia & get order for future release dates, also to make arrangement with Biograph Subject Room if desirable to handle in Argentina & Australia - this would be 8 per week & would supply the Market. We might even get Pathe in Australia.

Billy Bee What's matter with 20 Cells A4 for City Runabout work - to Cheaper to the Bat & Thistle - Wrong wheels - think all the London runabouts should be one wheels -

Ruth McEnery Stewart Stories - Reads darkness & dawn

Patent on cylinder Records

Collodion Cellulose

Dried cellulose treated with H2SO4 50B - see no use temp - press from wood by water alcohol & dry low temp - gives film Sal Not worked

M-Nitro-benzaldehyde forms Condensation product with 1 mol Benzol 2 mol phenol Little more than 1 mol dehydrated Sulphuric acid Carefully heat to 130. C. amorphous powder MP 60°; only slightly sol Hot water

by heating to 150 C M-benzaldehyde 1 mol Resorcinol 2 mols. MP 97-100 feebly sol boiling water.

Gravity why not add in Collodion with Nitrate at dif temperature, and long time by putting bottle near hot plate dif distances

To stuff in clear CS_2 add little H_2O make it little thinner, then take some off on glass.

Try all the Solvents in Alkalized Collodion Clear Solvent, —

for organic Solid substances dissolve in Benzol Tetrachlor Carb - Alcohol —

Mason Must have something to Start Rub Rolls. —

See Dodge, also about making 35 old fellow the machine about getting his drafting work under Schofell — also arrange with Smith for some + also Claude, + get, Sheafel keep records all work to get system started also tell J.V.M, Wally + everybody ✓

Waller Analy press flake Tonics in Carbon bottom 3/4" Moved to see if brighten —

Archer group of to 40 + 4 1164 - Dump press Use of Mon Tamp

See Claude of new big ground house Can be used

Cement in Pot		wt cubic ft
Stone	1.25" cubic ft	85
Sand	.50 "	95
Cement	.25" "	92
Clay	3½ lb	
Water	3 gal 1 quart.	

12.6% of whole is water

Dyer packed dusk pot sec'ondary + gum substitute - about Dodge ~~& Wocher~~ + glinster

Treat some slides rubber with alcoholic ROH, see if anything comes out!

Dodge - in making up cost of material for cell can be accurately ascertained after allowing for waste.

Gwa - 6 records - Maying & Jenss. + Mozart Rope op 2

Walke - Connect dead with lever rigid by flexible or small wire - steel on record makes run out bad also see if pointed screw lock on spring fulcrum is necessary

Try some 12 drop shellac with ZnO, SrCo, graphite, MgO, chalk

Put big photo in model pour grand cumberlands -

Have Dremel put in a 4 mm new style -

Make spring fulcrum new regular 1 5/10 diam at long lever

See How new regular pulse with making get along

Push Grand cumberlands through Schafal + restrunk

Telephone Arnold Graffin if they can supply drum chlorum yet

Dodge - How get long with
Estimates Cost of English plant

Compare Holland Cell Curves
with the 9886 numbers of good
Tubes Lead cells & see what is
Comparison of Loss to get some
idea of Values of 130 Tubes —
Ordinary temp, 75 50 also
not below par — Also compare
the 48 1164 with them —

Look up the 36 giving tests see
if they show better than reg
or no good.

Put 2 charged tubes in water & change I
frequently until Rust appears
+ KOH all out, then put in
21 + Run Reg — from old Coop.

For dissolving Celluloid use
acetone, chloroform Chem Soc
Jnl 1888 810 — also Jnl prac
Chem (2) 37

Harry Miller How about
Stock of Motion Pictures Pat G
or is there stock — how
arranged —

Take a Reg or 2 that gone low
+ charge to limit then remove + put
in water until Every trace of KOH out
so it will go Coll. & then dry +
put back to Run —

also run Bicellos 2 in 1/4% KOH.
several times, dump + then put in 21
+ run reg —

Charge 2 Irons Reg battery 7/8
after Running 3 times
charge + take out + allow
to self heat in warm water
then Charge again take

1. out of self heat on 2nd charge
take the other out of self heat
3rd charge the other —
put old back again
& Run see what
occurs — Weigh them all
1st —

Try Acetate Cadmium on Petrolac
Quinone precip with basic acid lead Quinone
Succinate lead basic & salt Sticky Cadmium
Tartrate lead Gelatinous
Hexamethylene Mg dibrom Soft Tenacious
Tribromethylene Na precip gummy precip by ETO
Sulphonaphthalene feldspar Transparent
MP 70 Cent.
Silicofluoride Mg Manganese gummy
H_2SO_4 Converts Carbonates sib to Plain
got some Balsam Peru, drawn threads
Benzoate glycol at 40 C drawn threads
Thymol abouts Mg bottle at 100 C (Have threads)
visin Mg bottle 10 g, threads

Dibromosalicylate Pb - Tough gummy mass
Cinnamic acid acid Cl. Tough gummy
phosphomolybdiphosphate Tenacious Transparent
Furfurine Tough Transparent

Nitrate KOH with PbO_2 dis - charge PbO_2 on
pale Pb after any time black large number pbs
test V & Cap

Glycerin dis 30 pts $CuSO_4$ - 35 pts $ZnSO_4$
Hydro dry bottling -

Oxychloride Sb MP 85 C
Magnesium Chlorate 40 C

Take some 1164 & test the 17% Bi nit
or make Tubes 24 36 & 48
also get some of the 17.5% &
make 2 tubes 48 drop green
Clear & then let stop —

precip some Vanadate by glycerin
dilute phosphoric acid Na Cellulose
free of by glycerin free NaOH solution
Sp Gr 1.052

Acids

Malonic	Citric	Sulphamic
Succinic	Fumaric	Sulphonic
Lipic	Sulphite	Sulphanilamic
Adipic	Hyposulphite	Sulfanamic
Pimelic	Albumen	Chlorobenzoic
Suberic	Gelatin	Pyrogallic
Anchoic	Sugar Crystl	Phthalic
Sebacic	Grape Sugar	Cresolinic
Formic	Mucinic	Salicylic
Propionic	Oxamic	Fluoboric
Caprolic	Carbamic	Hydrofluoboric
Carbonic	Sulphanilic	Bromoacetic
Acrylic	Anisic	Bromic
Uric	Chloroanisic	Tannic
Oleic	Nitroanisic	
Cumuric	Trichloroacetic	
Picric	Iodic	
Picrotoxic		

Precip Viscose with Cane Sugar -
Carbonl: Silicate Soda, Gelatin
Albumen -
Use thick Viscose put on glass
thin + immerse - 2x2 glass -
also actual precip using
Viscose + Fallow thin Salicylic
try $Al_2O_3OH_3$ Trihydroxide -

Look up A4 plate race way of fastening
10 grams metal to Each plate so
it cant drop out + revers when off
Make 2 A4 Cells for Holland
to test,

~~try Hot glucose + Cane sugar~~
~~on thick Viscose film~~

~~try pour Boiling water alone~~
~~over viscose film -~~

~~Rotate Cylinder with thick viscose~~
~~on in boiling water -~~

Order from Barly 1 Rumbold
for Mathew A 6 B Bellows,
or A 8
Also one for a tour around
the Country ~~HO AB = 1 Rec to carry~~
with luggage -

NaCl forms a compound with sugar
$C_{12}H_{22}O_{11}$ NaCl. $2H_2O$ –
Combines with Hydrate Ca — 3 propaline
1 Ca 2 Ca 3 Ca ! 2 Ca decomp by water
into Tribasic Salt & Sugar
Tribasic precip like albumen when
sugar Sol Continuing Excess Ca is heated

See if I get B/ on tube with
1164 & 48 —

Grind some clock way down to
get largest pcl possible ground
Above 48 — then 1164 & 136
48 60 — + Bi flake
48 60 —

Walter make a tube no flake
24 only 1164 & 48 +60 see def
Wt, —

Make an adjustable scraper
to get thin layers viscose
on glass — to make multiple
layers + then chrom also
H_2O + Silo — NaBiCrO4 —

Try leaches in sugar Sol — also alcohol
Picric in alcohol — picric with procedure
Try phenol in water —

Try Viscose ~~with~~ add the glucose or also
precipitate with ↑ or let ↑ dry + see if
glucose will prevent crystallization
also — dry only to certain point
and then coagulate in water —
Above is 9000 — also try
Multiple layers —

Realgar Sulfide Sb very feasible
made H_2O ditto Pentasulfide Sb
extremely feasible feasible
see if grow for phenol
pressing

Ammonium phosphite fuses at 123 Cent, K ~~formate MP 220c~~

acid acetate K Na
K acid phosphate for Vinegar set
K " phosphite = Alum

Selenium Sulfur at 50c
might mix with S –
possibly Sulfide Se might go in.
Sulphur + Cop Crystals

Arsenic Sulfide Of pyrit very
fusable, alloy with Realgar
to lower to fusing point also
as S

~~Dry Acetone + Water –~~
~~Aldehyde + Water precip Vis~~

grind some NaOH very fine mix 10%
with Fe + make iron pockets 1/2
gms Each. Test as noms also
Cold + hot resb

Spoke to Holland about Vanad — reduction
Fe in KOH, with Va Salt, or Va Salt alone
dup 3 Fe in 1st Pt Cl2 2nd AgNO3
3 Sb Cl2 to change Valence + also
to oxidize in Low temp –
Holland are you not the chap
about it being the Fe that is
bad on Cold Discharge.
Can test with Zinc – 10 Cu Ni

Dyri – no more experimenting at Lunston
build only standard torch he has
now – fix my Machine & Turn Lathe
over to me to finish

~~Salt of phosphotungstic heavy~~
Molecular weight Know might
use it in Engaging

Rand 1 shift 1500 Ton

	High	Low
3700 HPhoun 5 lbs 9 Tons 3	27.00	25.00
300 " 2 jimmy loco 1 Ton	4.00	4.00
2 shovels 3 Tons	9.00	9.00
Dynamite 2½c	37.50	37.50
Big Coco coal 2 Ton	6.00	5.50
Oil	5.00	3.00
Wear Rattpfalin	3.00	2.50
Water	5.00	5.00
Light Carbon lamps 8c	2.50	2.50
Pump man	2.00	1.75
Repairs	45.00	50.00
	176.50	145.75
2 shovel crews	36.00	32.00
2 jimmy 2 each	7.50	7.20
7 Drills $5. per day each	35.00	30.00
1 Blacksmith + helper	4.75	4.75
5 Trackmen + foreman	10.50	10.50
1 Shaft	6.00	10.00
1 Hand foreman	3.50	3.50
2 Powder loaders	4.75	3.60
1 Blockholer	2.50	2.25
1 water boy	1.00	1.00
1 Drill Carrier	1.60	1.60
4 Extra men	6.40	6.40
	119.50	107.55
		12.00

1 Tipper	2.75	2.50
1 Engineer bottom Rolli	3.00	2.75
1 Bottom man engineer	1.75	1.75
Top Tipper	2.50	2.50
1 Screenman	1.60	1.60
2 Car men	3.20	3.20
4 pickers	6.00	6.00
1 Hoist Eng	3.00	3.00
1 Boiler + 1 asst	4.50	4.50
2 General	3.20	3.20
1 Loco + 1 man	4.50	4.50
1 Switchman	1.60	1.60
1 Pipe man + 1 asst	4.60	4.25
2 Repair Machinist 1 help	7.50	6.60
D&W Road Loco + man	5.00	4.75
5 Trackmen + foreman	11.00	5.50 ½ time
	65.70	58.20

Extra for each excess of 100 tons

176.50	145.75	
119.50	107.55	
65.70	58.20	
361.7	311.50	

Max 24.1

Min 21.11 Carts

at D&W

Not Tons 2012 Non-Union Coal

Oct 1 1907

Notes - Banks	270 000	270 000
" Directors RHT	146 110	
Shakespeare	3,264	
EC Willis	.936	
JM Thompson	1,349	151 660
" Ja 2 yr	661 238	
" 4 & 6 mo	268 710	929 948
Merchandise Notes Oct	30 515	
Nov	21 306	
Dec	42 964	
after Jany	9 641	104 427
Total notes		1 456 237.
Accounts payable.		
payroll p/oct	26 472	
DSTW ft	61 067	
Merchdy Accts	84 258	188 537
Paine Co phone etc	16 704	
Grand total		1 644 769.

437
182
255

36

4 | 182

0

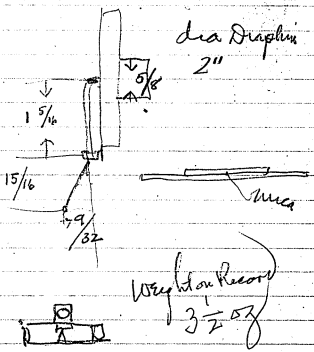
275 0 | 5000
2750.0
2250.0
2250.0
2250.0

27

N Eaborn

		A					B
		8.1.1616	Dashes	Crosses	DDTo	Licences	
Nov 1	837	12	84	14	4	0	36/6
" 15	~~852~~						
Dec 15	856						

Disk & Record up-down



Dec 22 851 2 min 639 4 m total 1 491 one for point 4 ob
Equivalent 1.811000

Hole 307 70 ft to Bromelk
" " 50 none
" " 70 other/2 none

Cost non Limestone Mills - burning lime

Mining cement rock at 30° } Limestone at 120 - }	20.00
Power	7.5
Coal Kiln -	12.0
Wear, Supplies, } Repairs - }	5.0
Burning coal - oil - Yard force office	1.5
Loading } Labor }	22.0
	70.5
Selling.	5.0
Rebates Advt + General for sales	1.0
	76.5
General Executive taxes Insts	1.0
	77.5
Deduct bag profit	5.0
	72.0
Dead Cost	2
Royalty	72.0

Cost at Mills not burning lime

Rock	10.00	6
Power	7.50	7
Kiln Coal	12	12
Wear, Supplies } Repairs }	5.00	4
Burning Coal-oil-Yard force	1.50	1
Loading } Labor }	22.00	17
	60.50	50
Selling	5.00	
Rebates Advt + Genl	1.00	
General Exec, taxes Insts	1.00	
	67.50	
	7.50	
Deduct Bag profit	60.0	
Dead Cost,	62 C	
Royalty	2	
	64 c	

Shipments

Territory A

May	61 6/5	1215	217
June	61	996	217
July	69	217	
Aug	67		
Sept	62		
Oct		1091	
Nov		73	
Dec		998	
Jany			
Febry			
March			
April			

1100 | 3600 | 33 2000 | 3 2000 | 2000

15 | 30 | 10 | 15 | 75

200 | 3600 | 2000 | 150

15 | 430 | 290 | 437 | 15

7 50 | 27 | 8 27

1091

2387 | 1100 | 2217 | 2387 | 327

119.35 | 50

RA Requirements on 50th Run 5%

(12) Best one - Thing to average of 150 hours

Dr Abraham E Orange - Montclair
Cy Acheson

Battery, Nov 6 -

Labor	2.93
Material	4.61
	7.54
Expense	5.77
	13.31 -

My Brooklyn Hoboken & C
2358 Main Street.

123.500 Vehicles in busy hour 3 per block

Battery Nov 27 652 cells

Gent 67 1/2 %	-
Labor	2.74
Material	4.30
	7.04
67%	4.76
	11.80 -

Dec 4 c Labor 2.88
Material 4.41
Gent 24 4.28
11.57

Dec 11 825 cells

Labor	2.93
Material	6.72
Gent	4.37 -

1/6 | 9.25 | 1.57

9.25 | 13.75 | 5.75 | 3.50 | 17.00 75

D

Probable Saving

5	2.5	cents profit $160 day on 800 tons dum
30	4.2	Saving on our dumpers, washers & 1 Quarry
	1.3	Using fine grinder 24 Days month 720
5	0.5	Belts from Circulating Conveyors
2	0.5	Saving chalk in Dryers
4	0.5	New pkg house No 3 Slick
20	2.5	Kiln Coal
	0.8	Saving dust for building up
	0.1	Saving lime from No 2 Dryer dryers
	0.4	Repairs, supplies.
	0.1	Lime in 3 Slick slop humidor
2	0.2	Shovel in No 2
	14.6	
		means output from 180 to 240 in month
	5.0	Saving in labor (10 Men M to 8 men M)
	19.6	
	4.0	Utilizing heat Kiln for steam
	23.6	

Selling Expense 15000 month includes Advt
of which 4000 are
7500 fixed
Rent & Com 2000
Interest floating debt not including Excess 3000
Interest on notes 4400
31900

Sales 1500 000 say in 1909 -

21.3 cents fixed charge per bbl.

61° average sales
8
69 - Bag Cost 56.0
21.3
77.3
69.8
8.1 Loss per bbl.

Selling & Com expense 17000, month which on basis of 125000 bbls is 13.6 - Excluding all interest,

13.6
56.0
69.6 Dead Cost.

If average sold is 63 48 bag gives 71 - or 1.4 cents profit per bbl.

1480	
44	
5920	
5920	
65.12	
1450	
651	
2137.20	
1250	
1550	
1860	

11

MV 44 cells wt 1550 lbs 12320 watts

A4 64 cells wt 900 lbs 12800 watts

Price A4 $768.00
" MVII 339.00

Extra weight MVII 650 lbs, Extra loss watts to carry this wt 1/5 of total Capacity which added to price of battery raises it to $407.00

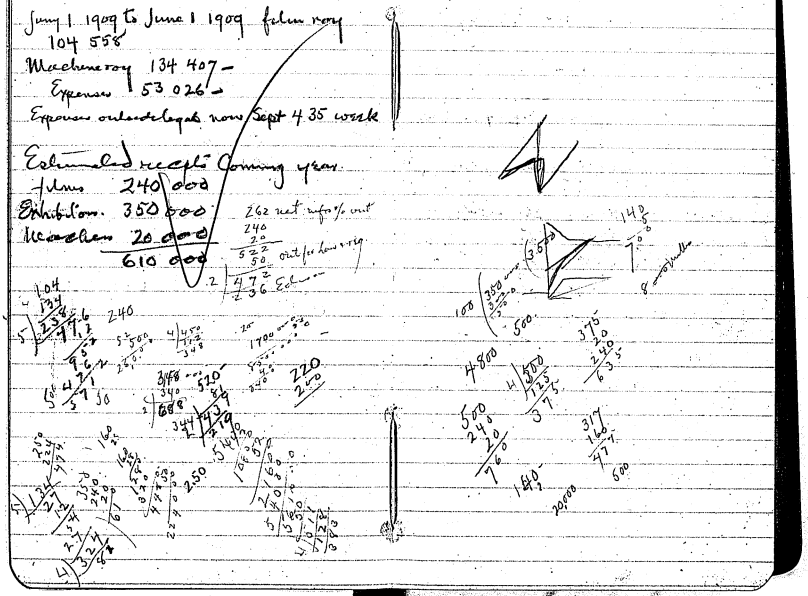
Costs of Chassis without battery $1440 or 70 cents per lb of freight Capacity, 650 lbs of dead wt displacing live freight at 70 cents per lb $455.00

Hence total real cost of MVII is $862.00 as against $768.00 for A4.64 —

June 1 1909 to June 1 1909 film roy
104 558
Machine roy 134 407 –
Expense 53 026 –
Expense outside legals now Sept 4.35 week

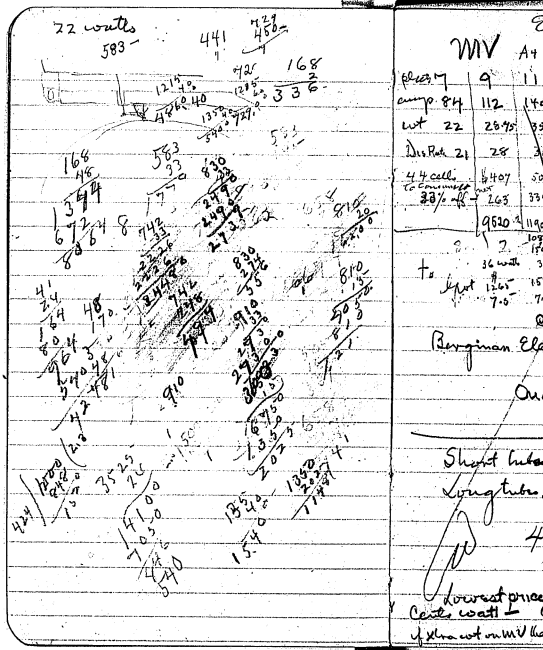
Estimated receipts Coming year
film 240 000
Exhibition 350 000
Machine 20 000
610 000

262 net after 1/3 out
240
20
522
50
out for boxing
2 | 472
236 Exhibition



22 watts

583



Eride

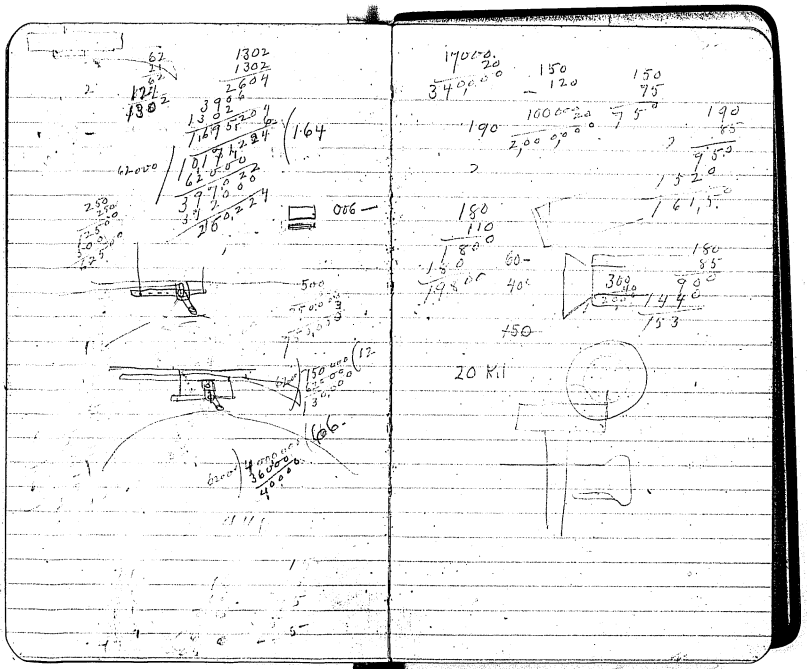
MV	A4	A4	A4 Bi				
Price 7	9	11	13	15	17	19	21
amp. 84	112	140	168	196	224	252	280
wat 22	28.75	35 1/4	41	46.75	52 1/2	60 1/4	66.75
Dis Rab 21	28	35	42	49	56	63	70
44 cell. to commence with 33% off	407	504	588	658	742	830	910
	263	339	394	441	494	556	600
	9520	11900	14280	16600	19040	21420	
		10500	13500				
		150	240	37	38	46	
	36 watt	35	36				
Short	1265	1551	1704	2057	2310	2650	
	7.05	7.7	8.3	8	8.2	8	

O. Bergmann
Bergmann Electricitäts Werke
Berlin N
Oudenarderstr 23, 32

Short tube 23 1/8 — 46 1/16
Long tube. 65 1/16 —

41.5% increase

Lowest price MV Cells average 2.7/10 Cents watt — Osram 6 Cents watt
If plus wat on MV than 3.24 cents watt —


20 Kil

Summary payroll Battery Co aug 4

	men	$
Battery Co		
Office & Eng. Dept	22	590 27
Construction	205	2059 29
Testing	50	839 07
Miscellaneous	10	134 91
Silver Lake	10	139 85
	44	548 43
J&E Lab	84	1484 67

our record 17 months ended at 100 Res
6.37 average 2 1/16 days

Funnels —

			months	ft
	32	V.16	1.04 00	9
	64		52 00	4.94
	128		26 00	
	256		13.00	
	512		6.50	
	1024		3.250	
	2048		1.620	1.620
	4096		0 781	.810

1st overflow

32	34.8 months
64	17.4
128	8.7
256	4.35
512	2.175
1024	1.0875
2048	.54
4096	.27

16.

Mag filter Colorado City

Average cost 100 ft yr end Feby 29 1908
was 78 90
" ditto Feby 28 1909
was 78 80
4 months ending 30 1909
was 147 17

Cost. per filter to 5.85 to 6.00 per 100 ft
Costs Every thing included
average selling price 8 55
profit per ft 2 70 ft —

July 25th
Ending 258 000 —

EPL 21731 ft
91470 Cons
759 bond
8 884 000 water

226 000 diatomite for Cuyahoga
260 000 lbs lime
161 000 Diatomite water
43 000 gallons + 2 1/2 Tell
123 000 unlicensed water
220 000 water in 13 months

fuel accounting

Since 7 to 10 1908 used 15666 lb Li_2CO_3
wt 668 240 lbs = 1 flask 3600 to aug 9
1909 — 6400 lbs on hand aug
9th 1909

Costs of 62 lbs flakes

get 65 return 35 at 35c cents 40c lb

Hypothetic case 90% of anode so four only 70% – 69 lbs at 31c less return 6.9 at 25c

	2139
	173
	~~1966~~
	2480

If good to get on drums

Low solution

$CuSO_4$ 414 lbs 4½c	1.86
$NiSO_4$ 4.83 gal 11c litre	2.01
Refining bath portion	.20
Distilled H_2O – 10 gal	1.00
H_2SO_4 142 lbs	1.28
City water	3.50
	9.85

Power 483 KWH 2½c	12.08
4 men 23 hours	15.40
Cu anodes 36 lbs 16c	6.61

Labor cutting 1 lb 6¼c

Separating if get 15c for CuO + only lose 10% $NiSO_4$ .23 cents per lb $NiSO_4$

1.36 c lb

Weight Tanicate 32.00 lbs Empty
aluminum weight with sand bags 37.95

9 lbs flake from 15 lbs punchings
333 gals $CuNiSO_4$ Liquid down
for 100 lbs Ni flakes

Expect ships in

May	145 M	actual ship
June	150 "	"
July	168	
Aug	173	
Sept	183	
Oct	172	
Nov	126	
Dec	94	

Tom McKendrick
Rooms 1027
874 Cable 75-1600

Dealers Cement 64%

March –	366	
apl	387	
May	531	45
June	616	45
July 1st	692	76
July 15	710	18
Aug 1	731	21
15	752	21
Sept 1 =	768	16
15	783	15
Oct 1	801	14
Oct 15	817	16

Nov 1 837 – 62 for A

Sept. 57

Cost Cement Plant — Cents per ton of finished cement

Saved in dryer	10
Low Exit Gases in Kiln 1000-	30
Circulating Cooling belt saving	10
Power from Kilns	~~40~~
New Reducer	~~5~~
Increased output to 8000	~~50~~
Rauth Crusher	50
~~Rock~~ Mining	20
	~~Offset~~

If ball mill 1200 day + 600 ~~5.45~~ Labor 20.0
17,000 bbl 17.14
8000 " 15.00
9000 " 13.90

Height new A4 Type 15" width 6"
27" for 8 cells A4 wt Cell 116-lbs
14.5 Each including tray

upon jan 19 1909 - Reg 216,113 —
wt 6.0 267,000

Lot
70 "52 grms flake 7.81 metal Pb
70 "78 " " 9.14
70 6400 Bich Metal 19.8 - Grittle blow
to 70 grm 16 gpm

S.B. Cells are 8% lower than
slug best lubes.

old flat pocket for per grm wt. ball oil: per grm wt 7.3

1½ %	1.95
3 %	2.58
6 %	2.80
9 %	3.09
15 %	3.22
30 %	2.51

1.05
2.00
2.11
2.25
2.18
1.41

Ring Lynic Record H 1½ x 7½ 14.13 inch
Circumference Velocity 37.58" per min 8.7"
mins on 7" surface

Victor 2 15/16 Recess for
cost 6 different dies
for one coil.

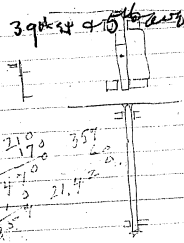
speed 78 Rev 100 Threads inch 3/32 Thick
Weight 320 grms needle 6/1000 wire for recording
Run 3.17 mins speed [illegible] Revs
22.18 sec order 46.7 [illegible] wire weight Record
Except recording [illegible] made simpler
Mean Surface Vel 344 —

35%	50	0
15%	75	
50	70.	

Average selling price
Average 69 75
7 50
7 25

MV 7 84 [illegible]
" 9 112
" 11 140 [illegible]

Club 39 [illegible] 4 [illegible]



21.0
17.0
14.0
21.4
35.7
21.4

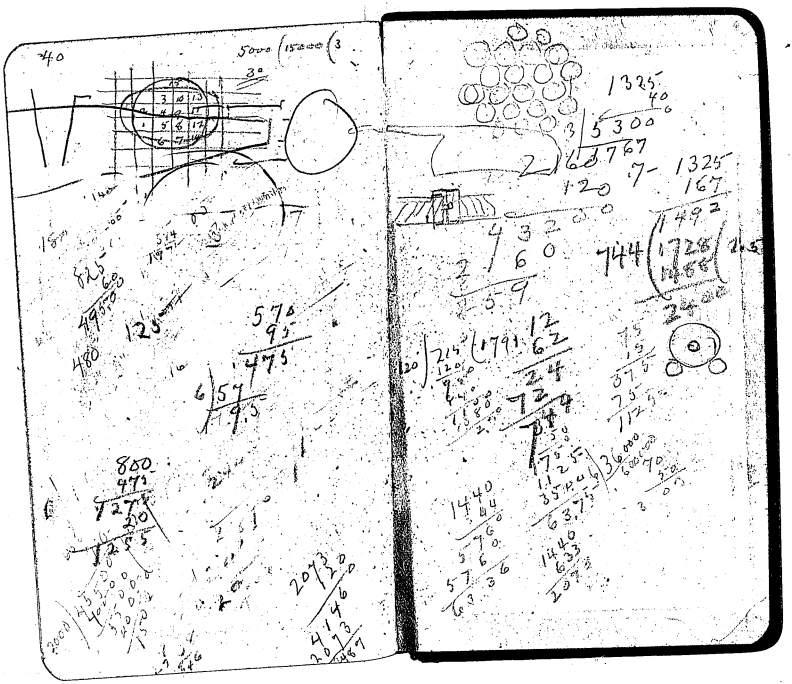
50 +

16.00
64.0

80.0
4
30

2000
25

12.00
4
48
36.0



Notebook, PN-10-04-13

This pocket notebook contains one dated entry from April 1910. It was probably used by Edison at his winter home in Fort Myers, Florida, as well as at the laboratory in West Orange. The book contains notes regarding experimental work and other tasks to be performed. Among the experiments are many chemical researches relative to Edison's alkaline storage battery and to phonograph record blanks. Other experiments pertain to motion pictures, color photography, business phonographs, and phonograph reproducers. An entry marked "Big Scheme" proposes using heat from the Edison Portland Cement Co. kilns to generate electricity. The employees mentioned in relation to individual experiments include Ralph Arbogast, Walter N. Archer, Eben G. Dodge, Pursell Eggleston, Ignacy Goldstein, Thomas D. Greenley, and Walter E. Holland. The notebook also contains many notations and reminders about patents, production costs, marketing, and other business matters. Included are notes pertaining to recording artists Leo Slezak, Arturo Nutini, and Harry Lauder, and a reminder to send storage battery data and a catalog to "Jack" Morgan at J. P. Morgan & Co. Near the end of the book are tabulated costs for battery and cement production, statistics on the production of chemicals, and a financial profile of the Edison Portland Cement Co. as of October 1909. One entry giving the address of a chemical plant is in an unidentified hand. The pages are unnumbered. Approximately 80 pages have been used.

PN-10-04-13

Checked Nov 99
Phil Murry

1503 72

1655 | 446 (2.7
3 3 0
1 1 6 0
1 1 5 5

180
27
2 6 0
1 6 0
3 6 0
3 6 0

2.7 | 1800 (66
1 6 2 0
1 8

115 | 446 (4
4 | 1 8 0
4 5

See if Sleeping acetate compl actually separates Rubber in 2 parts —

Phenol boiled with H_2O_2 gives normal Letts Napthalene reaction —

Phosphorous Anhydride / action Phostriable on Aniline colour, acetic acid MP 57 mod H_2O neither acid or base not affected by acids or alkalies —
1885 p 254-5 Chem Soc Jol —

Oxidizing Olefins by KMnO4 MP 122 C

See if Barbitric Ins in Cupriol Ret Sol —

See about Treatment of Rubber at Bolling
See Roche about Bromides for test by Goldstein

Goldstein 6 oz Sulphate Mg Fe —
80 Fe 20 mg Oxalate — 70 + 30 60 + 40 —
also Nitrate to get very strong to make a Weldonch Fe for Chlorine oxidation in bolling KCl Reduce —

Holland about test cells again grown
for 90 80 70 60 50 grains
KOH enhancement

5 grms Cobs reduced twice – Cannot then
replace chgs remove chgs 300 atmospheres
wet, little chgs [illegible] hundred atmospheres
free KOH & dried then [illegible]

1400 – June 27 – [illegible]
1362 – [illegible] 14
1423 – June 27
1449 – June 27
1595 – [illegible] 14
1493

Walker Arches Reg Fe 5 grm dump 8 flake
Every 1/2 of iron

Holland Recovery of 2 of the Hg 1/0 [illegible]

Found 2 5 grms Fe. Press & soaken
21 K dry & heat to 300 Fahr –

Holland Goldstein determination of H2O2
or H2O2 or ozone present in chgs
Cell in KOH.

Holland see of Pb1 (good) cell as
affected amount by Cell as Reg cell
Chg a test cell at Reg temp then heat to 130
& then put back at normal temp – [illegible]

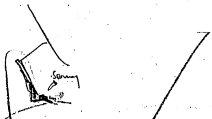
3 Likes 1/2 grms sulphur of Pb1 top swab
Like before [illegible] in put in the Cap –
Dep 1/4 grm –

Holland Start chg cell with test H2O2
in electrolyte –

Explosion – lay out Reg [illegible] & Commercial
yellow both on chalk, spray [illegible] output point of
spray. All so weight [illegible] to dim. [illegible]
free [illegible] – [illegible]

Explosive –
Collapse sapphire in high opacity
Repeat [illegible] at 40 [illegible] Reason
[illegible] 35 – See Eng about this
others [illegible] [illegible]
They are 40 instead of 35
Get some with [illegible] small
Fe [illegible] [illegible] –

Gravity perhaps [illegible] [illegible]
[illegible] will dry under heat
glycerin [illegible] gly will
absorb the [illegible] & heat
[illegible] top with [illegible] at



Joel Pettill rd not fit to working one complete outfit or unit - so not enquire if being made —

Dyer send to Prof for samples of the things $5 @ 7 & 10 dollars [illegible] 2 kinds of the best of French [illegible] known made to Ahrofit to best & for horse & person with chromatic [illegible]

Bismuth Thickness phate very sol H_2O precip by K salt. All the other actuals except French nickels does it test for K - $Bi_2(SO_4)_3$ 55% Bi very sol water dissolves in alk ammonium or acetate

Ask Dyer of Hyam Rutz to phone [illegible] abroad —

Water - demand cost of record delivered Albany including [illegible] general [illegible] — per 1000 —

Slezak as ok best some of the acids showed gave best of all big surgery

See if Phenoso could precip the Cu from Ephemeridi blue dissolved - get some Mg from battery [illegible] - think I go down as Cu_2O

Chl Zn - condensing dept for Oils & fats —

Try possibly not working at [illegible] by Vanadium Salts in or out of KOH + by Current

Thickness Coils

Try ordinary [illegible] Potash [illegible] of
[illegible]
make less [illegible] [illegible]
[illegible] make [illegible]
Sulphides are [illegible] Potash

Webbs at [illegible] [illegible] dust,
bag mills special 6 months [illegible]
[illegible] for [illegible]
Dyers about Tests [illegible] report,

Durand, 1/4 [illegible] phone only

Look at [illegible] Model
Record [illegible] point —

Send up 8/1000 Rosin and clearance
when got Florida

Try the 4C stuff with wood fibers

ask [illegible] if he sent the Tests
Results — Have Petit make
some from [illegible] moulds

Petit try Tetrafluoride

9 [illegible] 5 [illegible] Resinate
Aluminum [illegible] samples 9

Have — acid salt or Neutral Sulph
make test [illegible] first.

Mix gasolene and Resinate Lead yellow and Sulphide Na and from
[illegible] Tetrachloride PbSO4 + Ron Na — [illegible] Sulfate Calcium
+ Resinate Lead — try Oleates [illegible] Lead — Smith
[illegible] the outline principle of dry soaks drying
when heated accurate [illegible]

Try the Resinate [illegible] acc + [illegible] [illegible] will [illegible]
Resinate [illegible] soluble in organic solvents

If [illegible] get hot dry dry test + work out cause
[illegible] capacity dry hot + vice versa

Pie [illegible] + use the brush in [illegible] to trick
Hog [illegible] also 2 Sulphur — [illegible]

Drag [illegible] to drag on [illegible]

Precipitate Old Soap by [illegible] wash + Dry
Hot Rosin Esters —

Dit Epichlorohydrin [illegible]
Kauri + Copal fine —

Rosolic acid is a Condensation
product of Salicyl Aldehyde on
Phenol — acc of Rosolic a [illegible]

Greenley / Goldstein works

Pyrotartrimide dissolves oxide lead
filter paper attached remove it
gelatinous precipitate —

Schofel — Put up Egg Shelen Room
for 2 workmen — Motor & tools —
phones etc — clean out the partition
Also Gum put another man
Motor & Pump in Washing
Room —
Fall funnel manure etc to be
under scrapers

2 tubes powdered Bright emerald
powdered & mixed with green
4 48 — one 48 300 mixed each
tube —

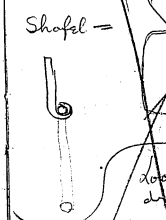
2 tubes dissolve green three flakes
there — 3 mixed K_2CO_3 iron lamp

2 tubes 48 green 4 f — green
has 20% K_2CO_3 mixed —

Dr. Louis Schaefer
Schaefer Alkaloid
Works
Maywood, N.J.

Harry get Coal Lift,

Shofel —



Look at V other worm
drive —

Dyer fall manure — clean lighting
room — golds all [illegible] etc.

Send to [illegible] Morgan [illegible]
& Billy Clifford [illegible]
also Cornish

Tell Dyer [illegible] Hanny Lender

Tell Dyer the trouble is [illegible]
& Dodge is stuck up him + you
will have trouble [illegible]
[illegible] he will
Either be confusted or crooked

Dyer Car lighting [illegible] no possibly
All batting lighting with [illegible] but
large cut is possible with much
bat —

Mutiesque [illegible] with
fibre are Sunday bowl
Proper in [illegible] first —
By my Gospelson [illegible] —

Show Smith + [illegible] Hyatt
air cylinder [illegible]

group — 33 alone
changed to 21 K 2 Li
group 33 [illegible]
changed to 21 K 2 Li
group 33 & 2 Li once
changed 21 K 2 Li
group 33 & 2 Li twice
changed to 21 K 2 Li
24 walk + 854 +
Drop 48 walk 1164
group 33 2 Li 3 Rly
once changed 21 K 2 Li
Little Tunnie —
24 0 + 48 walk

Speaker Dyer also arrangement
with groundsman pay $2. not
keep out of the [illegible]
[illegible]

Ask Hallam if he may sell tank cars to
½ V allowance the Expts in Cost for
comparison —

Chemicals to try all the chemicals
with Cane sugar
ditto Wood pulp
ditto Glycerine
ditto Rayon
ditto Rosin
ditto Phenol,
ditto Aniline
ditto Soft Cubron asphalt
Ditto Office chem —
Ditto Montana —

Dyer about finishing Dodge
for 500 dollars — tell him
about the 20 loader
washing & also about the
45 dump — RR
Lighting Comm
only — but will add
Eastern

We are prepared to sell Hallam. To
installation already made —
or Hoo

Boca Grande Sour Cement
Amer Agricultural Chem Co —

Write Rd that his room should
be refined at as low temperature
as will do the business to keep
it active, he showed long
some fab Expts also not quite to
model.

Work up the wrong Dr
Bakelite for Battery room
Rubber wire Rooms
test in small tank
cells place Ribbons

Rotating disk Calling off
on Dalton for photos
Sell how which cut out
persistence of perceptions

40% Bi mixed with Barium & Reduced by
Current ought to when charged
give BaO_2 & work as a problem
also other non conducting precipitation

Bismuth grease get one
on by Vul colour pitt
liquid Bi in —
With & without centrifuge.

Soak grease twice in
Most Conc Bi Sul pulling
in Rott soda lye & e
drying — also
Write Goldschm prep
10 15 20 25 30%
Bi with Hi
also Bi 15% grease
make by Gilman
Soak in Conc Bi Sul
get another dose in

perforate some alags &
grind so burrs get holes
same size as now &
then make plunger head
larger so same clearance
as with burrs & run a
number of curves

Try some Manganese Nickel
Try Cr Ur Mo as Chloride
same as Bi in grease

Write Goldschm Heat H_2SO_4
with different on acids
according to the percent

Phosphotungstic acid
Combine with mercury Ammonia
Substituents, albumen Goldschm
try lect

X42 new chem section Moreau's Reduced
M- Or Phal book with chem to be
acid on + Impurities X ray or Ultra
Violet light —

Make 6 leaves each
of Most Cons Bi
Manganeselaboo in various
ways as to time in Sol
Vad soak, time in ROH
Etc —
Think Cons Lingo leaves Bi Cf Mn/Ni
+ thus get very Cons Sol,
also Centrifuge,

Dodge about plating
leads on Can sheets —

Meadowcroft - Multipolar
Dynamo book

Water Connections ½ & ¾
together, both packed + from Indiana

Bottom

Turned other
way in Bolting

Top in packing

perforated tube like this

Knit tube flattened wire
00 Reg Knitting needles

Dyes: Ought to file for applicn
and Diamond recommendation to.
present trouble — write out
process using ~~explicit~~ ~~to~~ ~~be~~ ~~as~~ ~~to~~ ~~be~~ ~~as~~

Holland 2 Cells
charged several times
filled water repd
+ set away to sold
deposits

perhaps a Bi Cell will not hold its charge — Tell Holland that it —

Li_2CO_3 on hand 7/26/4 5 1800 CG

Signor Nutini Pianist — 245 Summer Avenue near 3rd Ave. Newark N.J.

Goldfield Dictorial Nevada Bismuth veins in January, Combination of Sandstorm mines —

Metals Glycols + Metals Fe heated together to 600 C gives loose bibbed compound 2 Sr O FeO_2 The Fe_2O_3 acting as an acid radical

perhaps Can use this in battery. Imalcad Nickel — Try Ba Ca — Think heavy will make most peculiar the 2 Salts in Hypo-permanganate KOH etc

Patent Right on Gold hand Operated assembling of Tubes —

Nickel plating Com — gum dust stuff well + slum) KOH + working for Factory matted Rubber)

Patent Bi attached to P Electrodes — dilute BiOH in Cell

Make some Tungsten Powder that Conduct Prec of work in Tube,

Cheap Chemo to put in Chalk to heal for better Climates NaCl. $CaSO_4$ Felspar Na_2CO_3 Nat Carbon Na Si Iron ore Nitrate — Mix over Fluorspar, Cryolite $CaCl$ Na Sulphate Florida Rock Phosphate, Coal to reduce Ferric —

Goldstein to make some NaOH. + dry Potash + Lump that it will all go black

Ferrates or ferrate of Earthy alkalies may lead to sal in KOH o-cond by raised up to FeO_2 by Elec oxidation for use as P electrode –

Ferrate of Barium $BaO\ FeO_3$ bulky cochineal or purple red precipitate becomes brown red after drying at 100 C.

Goldstein make a cathode tray

Goldstein make 100 grams Roussins Salt

Nitroprusside of Iron

$Fe_2 C_6 S_5 (NO)_10 H_2O$

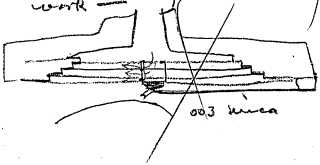
or $FeNO_2 NH_2S$ –

When got to Orange Lajoie bag from Rand drill hole assay for Bi see depth it was found at & if cobalt halos in soft material if so could dig & also bore 2 or 3 more holes to same depth to see if much of a deposit – Look up the Bi. Sellers & go into the matter of a supply for 500 lbs daily

Write Grundy to try dissolving the NaCl halos with liquid CS_2 containing varying amounts of dissolved S.

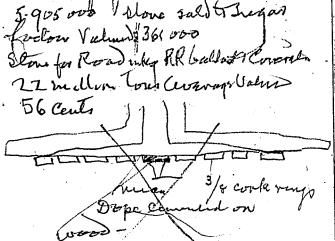
Ask Mallory to have Mora figure out what 500 m lbs cost & above 1/5

Ask Holland how they match
bullers - hope they don't
mix Lowcarp with high Cap -
Holland to send Cleaners to,
Benjamin + Cullen yellowbum
to Comparative Cement Latest 2184
A4 + Sayers E18 goes in
periodics. 2 yrs in heavy work
or 600 chgs + dis + 1200
in lighter work -
report that if there is anything
in Comparison A4 showed
least several years in heavy
work —



Caustic Lime bldg 1,580,711 Hydrated 136 000
alkali works 46 000 chemical works
73000 — paper mills 169 000
sugar factors 24 000 Tannerm 22 000
Fertilizers 339 000 Dealers 307 000

Cements for flux 11 million tons Value
5,905 000 Alone sold to Sugar
factors Value 361 000
Stone for Road ballast RR ballast + Concrete
22 million tons Cement Value
56 Cents



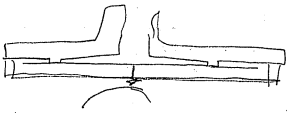
Holland to chg 130 chgs +
Reserve 72 sold -
Charges 2 of product
equipment - Condition 3 times
outlet 6 times without
Lion -

~~Gal. Salem offered me best of his other, now I know made after 100.~~

~~Diamonds found in 70~~
~~Van Moppes 68 Nassau St~~
~~Write Dyer Steel cor hands~~
~~10 000 points.~~

~~Archer of Coughsaw~~
~~any more 10.8 - Bot~~
~~Graphite put in carbo~~
~~Coalbond flake, 24 deg~~

~~To prevent foaming in~~
~~RDH. boil with Bi OH~~
~~which will be destroyed by~~
~~Organic acid if it is by~~
~~pulling organic in~~

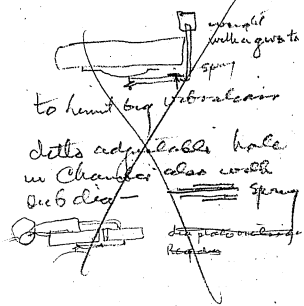


Larger dia than trim dia.

Oxidize organic matter in KOH
with Sodium hypochlorite boiling —
collect + pour off acc. of Grams
by Bioth also — also N_2O_3 OH)

~~Write B Bar to Hall Italian~~
~~Navy to renew Elec~~
~~every 250 also that~~
~~from phone have full long~~
~~change. 250 Rem~~
~~also, that bag~~

for Regrinding in Tube mills
get product of crushing from
Sub bins or dust to present
power plant —



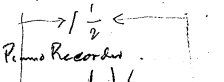
In ring dia. The knife spring should
be stiff enough so the chips can be
bowed in towards chamber, then
the tendency to jump out will
be at a minimum. This is a
new kink + especially good
with Ring dia of thick —

Make width of Doped surface
both Edges on ring 1/32 instead
1/16 to 3/32 as now —

Holland Make A 4
both same tubes ^ Mi + flake
but now in one
Changed or Reversed
12 times to change lugs and
after each Reversal
One in 21 K. other 21 K 2 L
3rd one Rem Rag

Braided tube flat wire
also perforated flat wire
braided

Elc



Bent Piano Recorder

Bowed in
To make dia less sensitive to outward movement of Knife – Rubber dropped with BS. 1/2 dia – 7/8 hole
Covered by celanese –

Note for disc – can double depth cut for making outer surface following other

Na pyrogallate prevents
Easy self decomp of peroxides
like H_2O_2 or by Catylist

Try Ring Dia of Cuf &
also balance the friction
pull by a stiff spring
so dia detectors –

see if the track of pen
in Cuf will give a
current (1-2) repeat into
another Cerement,

Chlorid Iohd 1 to 1½ hac
OK – slurry well – Lac absolutely
mod –

Ethyl Chloromethyl Xylol
at high temp dissolves Rubber
+ makes a lumpy solid on cooling
but if solution thrown on the
Rubber coagulates + appears
to be very good as ever on
Cooling. This may be useful
especially if higher MP or
BP Chloromethyl Xylol
is used – The water would
go out on decomposing + leaving
reducing dropping & then
when dry & cooled is used
+ Easily vulcanized or
Xylochle dissolved out
leaving sponge to
incorporate rubber with
also have way make
Rubber sponge –
also have way to mix
Shellac or other ingredients
with Rubber –

Common Aldehyde dissolves
Cyanamide after 24 hours
changes to Albody like
Cogal sol 210

Lincoln Chloride Crude
petrol – fully + ~~[illegible]~~ in fractions
= do Bulls

Toluene agitated with 1% Permang
yields Benzoic acid + a solid
insoluble body ~~[illegible]~~ 210
or albody –

Pure Yellowish Toluene MP 28 @ 29 C
Hard crystl.

Resins are formed by action
Phosphoric anhydride on
Aldehydes

Hollow Change + shake 6 times
~~that~~ Rep tubes using Zinc TK Li
instead now then change
soak in KOH & 2 Li Run Rep.

ditto Change dies — KOH, 2 Li
with platens & assemble
with Reversed Fe.

ditto, Use 2 plat electrolyte
& change & clean then put
in tube —

dios photo - very fine
gelatinous precipt or,
fine precip revised with
gelatine, damp &
put on record & pressed
water pressed out
as plunger pressure
then heated under press

a little to get them
removed & placed under
plates with absorbent
to dry - non water
sol things be used
also - & proper fibers
mixed - desic with glycerin
can be exposed formol
vapor - gelatine by
mixed bichromate & after
mixing exposed light —

Sal ammoniac is tough
& presses into a fine hard
disk, think of powdered
mixed with glue ⊙
gelatine coated be very
tough —

look thin collection
for tough crystal organic &
press them —

Holland Steel Lead Galley
for clay & dies at 32" 4 ft 2 lb

Shellac does absorbed & precip
by water as a binder –
Could at some time precip
the finely divided Wax Metal
There is a general recession
for disc records
Even Resin could be used
Kauri –

Hair for disc mix
Asbestos, cow hair, wool, horse, mineral wool
Cotton lint, Corte, pith corn,

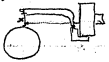
to Lightning Cut
make boundary adjustable.

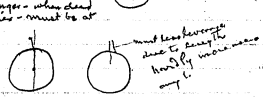
Stretch horizontal
the side swivel.

Cut away
as long as spring feel X

Write Myers & Ellen to allow
Anderson for party in Cleveland

To double amplitude
of Dia – X must be made
8 times longer – when dead
over centre – must be at
angle.





Covent new
of
V

Sulphur
008/hole

John Ott lake strips ground
of lake + roll out flatter
+ make 3 layers -

Dibromanthracen 1 part Sulphur
15 parts combine + makes sulphur
anthraphrone — There is chang
Dibro at 100 + S at 2C 8 cent 66
more exact for this compound
MP 220 Centigrade -

Guldstein prepared MPOH from
Calochylate Sol with dif %
of water in alcohol -
Try Ethyl + Methyl - glycerine
water Salicylate that dissolves
NaOH.

Guldstein - prepared 3, 1st +
Pulsate cement 5 the NaOH
2 5 7 10 + 15 % B, metal

Xylol Chloroacetate with great
amt Shellac does Till all melted
+ still like Molasses so
allowed to condense, then
cool it is very hard + nearly
as tough as Jura Hexa-wollen
fibre — think of now powdered
+ mixed with fibre it would
be as tough if not tougher
+ much more flex. bl.
it will 3 clean but not
melt + then take
impression — possibly
other things can be mixed
like powders as in make
Hexa the mat + bundle —
it powders good -

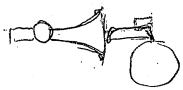
[illegible]

I found on pouring the lac in a flat dish just before it condenses that it is just as hard + can be used to make fibres with coffee powder (my it will soften bellow) then condensed stuff & powders off in the oven

~~Try Trinidad asphalt same as used for pavements, grind up with paper pulp for dyes - required bills 2c lb - 19~~ Extra cheap

~~Dyes - Boron~~ [illegible]
Any 2 amys polarised no change + nearly be hard & apparently hard

Loud tone thinking must be due to dia & ass words as when rubber is inserted best levers & dia equally good yet levers have same amplitude - try



Write Goldbeater to find a very sensitive test for - albumen - spectroscope + also Chem - Etc -

Write Benjamin Cost of Rolls & all appliances make 0035 or 005 steel Cost to produce & wages +

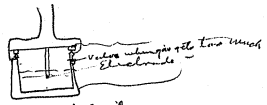
Work out 2 ft drum also condenser process
Ni flake

Mn $(OH)_2$ [illegible] and Al_2O_3
mix some with your pocket

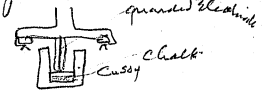
Premium Recent Prices
on Moulan — Cobalt
put in Reg bottles 2 mm

See what Dyer files put new
Reeds Ring [illegible]
Barron point —

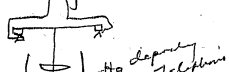
Ask Rieser try 20 mesh of [illegible] in
his tube mill then grind
till 75% thru 200 —
Clean out & put some of over
85% thru 200 & grind same
length time see fines in
Comparatively —



gas telephone



Cu depositing Telephone



Double Kinetoscope 15 sec
throw one picture on
screen then the other
subjects entirely dif
ferent work for each P

Extra Shutter colored
segment, controlled
by synchronized motor or
Electric Contact to
color films at time

For weights of reproducers,
use powdered Impalpable pour
Lead in it to make solid.

Ni reduced H, dump
green Tamp then Empty Ni
Tamp to get rid flake

good tube that by long running
gave bad dry (18) work after
then bore hole thru center &
force in tube to make contact
with flake.

Think out ways of making new
products in the cement works.
= possibly Telapatite rock & lime
of low MP. fused in kilns to
make a Ca K^P s of powder for
farmers, high phosphorous rock

Mullay = why not burn
farmers lime in Rotating Kiln
at works, our No 3 or 4
Quarry lime is ok, Especially
for, can find a high K or Phos
lime,

I think that instead
of running cumberous Moulds
that it would be equally
& perhaps a great saving
in work = ...

or coined by pressed in
smooth die even with face on
reverse & Represented in
petit. thus especially on big
dreams -

See Swab about grounding
Pressed upon H Slag for
Farmers phosphate

Bully Bee sea articles -
Elect of Elevators and
Elec Leads reversal
31 - See Prem -
Note press & suppose

When get North fatal free at Cape
Clear new Reader -
also all things for new Reader

art some Ni plated tube strip
& plate with gold. then
load - another plate tube
also the flake with gold

Bismuth Nitrate or
K or Na Nitrite form a
double salt only soluble

Battery - find out Car lighting
agent Best & start dept, ditto
Sparking Mining & small mes
Organize a selling Dept.

Warrant not making
$100 out of better
Recorder & Reader

New Reader for
ambulance & Reg

SB - Selling Dept - 2 or 3 men
to visit Electric Light Stations
make Manager agent for
Lawrence's Battery - also men
to sell at Hunt to Rumford Vacuum
Bradney Payne & Lincoln
Boston friends, interest
Kimball, find out Coal
Phila Storage Ware, also
Advertising Company,
Take up with Mallory &
Meyer Exhibiting Model
House in Commr. Mr. Anderson Sept
May 18.

Acoustics

Rods vibration directly as to
thickness & inversely as the square
of their length
Stretched cords with constant tension
Number per sec inversely as length
Number per sec directly as square root
of tension
Number per sec square root of the density

acoustics

High pitch waves propagated in liquids
less easily than low pitch,

1" is 4 times quicker than $1\frac{1}{2}$
Cutting out colors quickens it, also
as against 1 5/8 the weight 1/2 this
again quickens it,

Goldstein - prepare Moth with
5 10 15 20 & 30% CO_2.
idea - that Mn + Co both go
to conducting peroxides but
NiOH. will reduce + CO_2
acts as a Conductor
Dills make enough of the
above to permit using
H_2O only in vacuum
proportions with it,

XYZ fluorescent Crystal microscope between Sulphide in microscope only to 1000 Gauss, if energy passes it glass or fluorescence, window Received Etc

Abroqast equals some $CoSO_4$ & reduce in H, & make some Iron Co going over wanted help Tubes unless burning it, wont see Vallenga Etc.

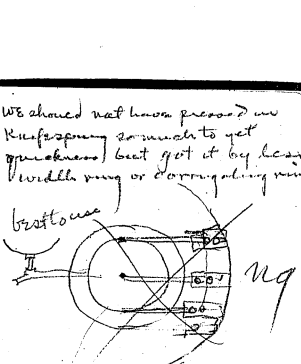
Carbonate Strontia precipitate dried & moistened with water containing slight amount of $SrOH$, moulded lightly in press & dried by Carbonate the $SrOH$, also $LiOH$. Use for recording to get rid of friction & wear, graphite or gold plates about reproduce: Turn off on Record phone, don't use tra...

Write L Otl if he has
made the Tungsten Bronzes
both Sodium & Potassium
also if there is a Lithium
Tungsten bronze that
I want 2 or 3 oz of
Each in the form that
Conduct Elec for experiments
for battery —

Chatley & Chas is due to
work of Knife forming
Node

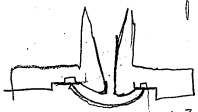
diminish width of ring as
far as possible giving deflection
or paper to diminish it or
a single connection on the angle
but will help +

We showed not known pressure on
Knife forming so much to get
quickness but got it by heavy
middle ring or forming along ring



prevent tilting
1" Dia disk should be
about 1/8 wide — disk 3/4 —

Apl 13 1910



About carrying balloon during winter – all orders must be 3 months trials as long as can hold them —

~~Saponify Shellac~~ —
~~See if the pressure is~~
~~dissolved by KOH.~~

When get Orange look up files on Bismuth

See Dyer Bee & Henderson about putting 2 good men going round to Electric Light
Stations getting managed
handle balloon & Henderson
see abt Comm. Trials.
What Prof. Elec & Hanover
Schemes is —

Archer Make up 12 cells –
groups 2 with 854 containing
8 12 + 15% Bi metal –
Edison make it, run each
group different on start, try
1 Reverse. Zone 1 & 2 dip 14
same with oxide wipes on —

Ask Mallory about Cayenne.
Reports since keyboard stopped

Take up Scheme Ultal
3 Express Cos put in 250 now
in Lansdon —

See Vandenberg about
Lansdon + Branch cars
car lighting - etc -

See results of powered
Cement Cubes when
return —

Make book of big Curves sheets
all Cos so can keep right up —

Show Dodge Citrous on
tubes with 1/8 mole K_2CO_3 Each
end —

Suggest Dodge has man could
spot nature of bad flake by
making to tubes of fresh bath
before making general mix of
flake + then spot on the Cause
bad flake

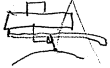
Find out of Copper Regulator
Japan working where now
tube making Machine —

See Sims + have Holland
see if in discharging an A4
a small pocket filled with B.O
being in Cell will be
reduced at any stage of
electrolysis which connected to
Ni + if the reduced BO is
conductor — important to
know this —

Have 4½ × 7½ pillows taking
Machine boat over to
Lub to test with — also
finish grand Amberola Machine

Take up personally the Patel
process & work it out -

Make new Reproducer for
Big Machine



Some 1st class man with
Money to go to foreign
Countries for Bench Cos
& selling & same time
Bayley & Anderson Vehicle
Cos Lichtenstein & Burroughs
agt

Clearly line is the agent that
introduces C into Ni in
plating - Try

group 5% CO_2 5 BiO
10 " " 5 BiO
15 " " 5 "
5 " " 5 "
5 10 "
10 " 10 "

Put 5 10 15 & 20 %
Bi in the fuse & use
clean Fe w/ chromic acid
Hg - Bi will act as
Conductor till all
Fe used - Lower
Clay Valleys

Reduce Fe + Ni together
self heat use 75 Fe
25 Ni -

Chg Fe let it solidfied
change again chg it
3 times put up
with 4 tubes
Chg Fe with sealed
bag —

Maker ~~[illegible]~~ open &
press 5 gram Cake Fe
in see of Com. Chg &
does it without
desubrigation or if
it holds ~~[illegible]~~

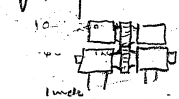
See of Silicate & Phosphide
of Ca Ba Sr Mg Fe
Zn can be fused &
are stable in KOH
to take place of
Rubber parts

See of Iron & Steel stuff
stable in KOH.

Dally
Try Expert Lab small Combustion
tube Element dust Cleaning them
in Sheet iron chamber see of
Electrifying wire also to
also covers electrified hung
down

In place sheet iron deflection
in furnace use [illegible] wire —
find out what Geogrow
of Tantalise Wire or
Cobalt Sheet used or
Nickel Bismuth
~~[illegible]~~

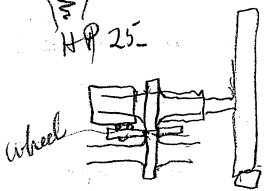
Briquetting Chalk



to 5 ans prime
better be 36"
wheel or
24"

Compression

HP 25



Suggest Mason throwing a Cement 50 lb bag of into Kiln 3 or 4 times or oftener clear out adherence chalk and prevent throwing Chalk into draft

2 tubes with 1164 - 15 Bins OX
48 dump - with 7 Rings
2 tubes 8 Rings 2 9 Rings
2 10 Rings -
Drop above with Rings heavy plated or thicker stock

Drills 1164 scaled on Bins and to get 15% on 48 dump
or 7 8 9 + 10 Rings
drills 24 to dump

ask Dodge what the special Marabum for loading is doing —

Give Archer Scrap book & paste ~~and~~ my orders on —

See Jack Morgan of Merchants Vacuum Co make drawing both ends with Electric trap —

Another point was used to squeeze out out of Chalk by screw now was done 30# air expanded & liquid draft —

Cove make { } Jacquillo Chalk — wooden drum 6 ft dia 10 ft long feed down tube & atsdebar fitted to it

One of 1st things to do make Knife Edge ~~Pressure~~ Calculator Reg Diaphr —

Ask Vaid if he is open for reports on Bleyle & E

Meadocroft find engraved leaflet signed by deche E too true —

E

Durand & Bent Heavy
3 types Mixed —
So there be no wear
Cutting. 70 85 & 100

Design Dynamo & motors for
axle chg Battery wheel not
running try get trical
O.S.&W. — get all data
Axle & Cost to calculate

P.V.W. O.Z. Grand
P.M. & all best,
very get Lans den w

See Johnson get 3 or 4 mills
Credit 50%, on 1½ also
Ask at Co.

BIG SCHEME

Use dusters at Kilns to make
very low pressure steam & then use in
turbine —

If Churchill doesn't answer change
or Chandler, can blow it so
it will drop all the dust

Baby Rec Days — Flagler Lamoder
Coal mine Loco not now
for trolley — Dock trucks
Bid wire get Subway lighting
order — Talk about sparking
battery —

Dyer rebuilt & refinishing selling
Bl. get, Pattern

Petit & Alley in Montana
Record & new t —

glass of aluminum
Dynamo for dynamo
[illegible]

See if [illegible] can make
those [illegible] Cells e/o
for Archer —

Change our desk so it
can go into [illegible]
See dealers [illegible]
on [illegible] propeller

How about E D Adams
for more capital,

Dyn wound [illegible] m's
[illegible] 3 [illegible]! Have
we saved desk room in my
o/o —

Get 2 low E 18 take agent
for [illegible] B1 to gold plate
& assemble again see of
Can regenerate —

Get Atkins 2 Lists of Jewr
list,

Write Mason to send me
total shipments & sales
month in 1897 & 98
10 to date,

Archer fit in film tube, make
Reg tube & hold 2 tubes
Run Reg —

Ask B see why not remove
Motor & 1/2 the Voltages
of Rumbo or make Voltage and
[illegible] of [illegible] cells
to get into Rumbo's oscillator

Get [illegible]
Coils [illegible]

Dodge-Reviews from dont
rent yet Eno — [illegible]
also Stockton [illegible]
Dalby to work on Co Regulations

Want list Elec trucks addresses
N.Y. Pa, Ohio, Mass, Conn

Drummond for
1. Electric Boat by
1 Car lighting
3 Garage
1 to get new Truck, change over
1 Sprinkling.

In guarantee my Leaky Electric trucks, not discharging habitually below Volt. Guarantee that the battery shall be capable of giving rated Capacity over a period of 3 years with a small increase in the input to allow for effect of impurities in the, distilled water & Electrolyte

~~or due~~ Mechanical defects within 1 year free change of Lamp, Car but be safe due to Electrolytic action from dirt allowed to enter around the battery + accumulate, recommend well sealing to allow any impurities to be [illegible] time over change, every [illegible] [illegible] Hedger - buy Lansden trucks + new battery.

See Bachman about Section of Model of Show & Brady Model Elec or Exhibit of Fast Converter to be shown

Try KOH on Iron formulas also Chromium doped with MgO -

Holstein Weaks 50% CoOH/2
Weaks 2 hours 95% NiOH 5 CoOH
do 90 NiOH 10 CoOH — do 85% NiOH/
15% CoOH, CoOH through 100 or 180
mixed with NiOH,

ditto 95 NiOH, 5 CoOH,
then to this mix add 5% BiO
Anhy –
ditto 90 NiOH 10 CoOH +
5 BiOH.

ditto 85 NiOH 15 $CoOH_2$
+5 BiO
ditto 95 $NiOH_2$ 5 $CoOH_2$ +
10% BiO –
ditto 95 NiOH 5% $CoOH_2$ +
15% BiO +

2 tubes, 854 – 10% BiO 2% HgO.
" " 10% BiO 3% HgO
15% BiO 3% HgO
5% BiO 3% HgO
all mixed. see if can get right kind HgO to get
to get rid powder

2 tubes 90 Ni OH2 10 CoOH2
Mixed – then 10% BiO + 3% HgO –

2 Irons 5 grms. containing 10%
powdered Kettelmeyer. Very fine –
see Goldsbeen if he can make it
fine – run chg curves

Yesterday see if can plate Copper
out of Monell metal free of Ni
so we get Ni powder + close Cu

Have Monel Can make up for A 41
+ assembled for trial by Hollaand

look up or get add in 2 or 3 Lechmanl
papers for Hypochlorite process
look up Big Bucky of UCO for makers

take grove gone off bad (New) Irons
charged + connect 10 amp to tubes

2 in group - 854 10% B_2OH Hung 100
on 190° - 21K ½ Li Dip 15 NaOH ½ LiOH
Dip 15 NaOH 1 Li OH
Dip 21K 1 Li " 15 NaOH 2 LiOH
Dip 21K 2 Li " 15 NaOH 3 LiOH
Dip 25K ½ Li
Dip 25K 1 Li Dip 18 NaOH ½ Li
Dip 25K 2 Li " 18 " 1 Li
Dip 30% No Li " 18 " 2 Li
Dip 30 ¼ Li " 18 " 3 Li
15 Dip 30 ½ Li Dip 10K 8 Na ½ Li
Dip 30 1 Li " 10K 8 Na 1 Li
Dip 15K 7 R_2CO_3 1 Li 10K 8 Na 2 Li
15K 7 " 2 Li 10K 8 Na 3 Li
15K 7 " 3 Li

Pressure & try Vanadium on Fe
prevent rust & Decay Fact -
Flash after Can plated Can dot on
Can with Compound of Vanadium
stop further corrosion

Ask Gwa two dip Can in the
stuff he Resin up can dust over
Hexamethylenetetramine & harden it
for Baking Can

2 group 854 70% B_2OH - 2% Sb_2O antiny
" " 5 "
" " 10 "

Fe mixed with 3% B_2OH hydrate dry
" " 5 "
2 Ench 10 "

RCh ignite $FeSO_4$ + B_2SO_4 - &
reduce sediment but was no
recovery and it up 5% but 10% but
15% but

Pet foncaulus & cornell glass
until use know what was
want - see if Xylol & acetone scrap
coff rubber - or any of the solvent

Write out a description pound homes
& scheme for cheap leaflet -

Try Vulcanizing Scrap Rubber
To Hard Rubber.

Dec of B. Electric Light
Gen plan of development to
Zero to reduce the wound
Run billes - Amount to fund
out of notes - bills overdue
100 no good for B. & Co
Welsh it accumulated but
must be discharged to Zero

Get that article from
the Mexican & left in
Florida

find the length of lot
Vanderbeem bought for $ 60
to try on Mr Indge
try Vanderbeem and 2 gross
in Zero chrysts -

Raised Gold filled 5

Car lighting
Straight Storage Lighting 32 Cells 60 V
300 amp Lost $ 650 To 600 -

Apple 16 Cells 32 V 300 amp $ 325 for
battery $ 400 To 750 for Apple rig -
300 amp Lost 47 75 Card Cos cells J
at 17 To $ 21 pay $ 13 per cell

Pullman 32 V 35 amp. 8 hours
Coaches 10 DLW To 25 amp RI RR

300 amp cells weigh 171 lbs in Tray

Cement.	made	orders
Shipped		mch 30 13301,
Feby 67003	none –	april 1 32222 53
Mch 150 226	march 96 502	

Chicago St RR

Track 50 000 per mile –	177 miles
Cars $6000 each	650
Trolleywire $4.100 per mile	143 miles
Feeders 5 808	248 "
Conduit $1.320 mile	620 miles
auxiliary Cable 2.640 mile	100 "
Poles $1.100	210 "

Cars use ESB &
Cars Costing 11.000 Each

150 miles 185 a
97
150 / 277 amps - (1.846
150
1270
1200
700
600
100

250 230
20.0 115
34.5

1.846 amp carriage mile.

37 miles

1846 / 34500 (187. more on A6B1
1846.0
16048
14776.0
12922
1.3

230
23
253.240

	Red Bills	Bank Bal
Landsea - orders		
February none		
March 30.045,	15664	6414.

March Cement A 62% B 38%

Anderson Brougham Wt with 40
A6 - 2400 lbs without bat cost 1585
#2250. paid for Vehicle without battery
A8 - 47/8 x 5 1/4 2700 cc limited (A)

Material + labor 100 A4 cells
production 1400 cells week

	material	labor	Mfrs	Cost of material + labor
Metal parts in rough	40.95	194 52		235 44
Rubber parts	77.79	8.08		85 87
Flake labor 50¢ c lb. 50 lbs 1.19	59.50	25 13		84 66
Nickel hydroxide 55¢ lb	159.58	– 70		160 28
Iron Mix	89 31			89 31
Nickel Plating	11.53	11 83		13 36
Trays labor 18			1 09	
Sundry labor 9 56				
300 No 5 1" wood screw			09	
Water			15	
Dry lithium 13-1/3 Kilo at 96¢			1275	
140 Litre 21 KOH + 50 grms LiOH at 08			1120	36 28
100 256 ¼ mac screw				06
	465.00	250 00		715 00
				264
				979
2800 WEEKLY	450	220		670
				220
				890

Mch 11 CP 184 Kilo 1770 chlk 858 7meg-000

Details of General expenses per cell on production 1400 cells week 55 hours

	Labor	Material
Rent		10
Electric Current		39
Water gas, steam		11
Foreman	20	
Watchmen, sweepers, Elevator men + general purpose gang	15	
Inspection	33	
Packing supplies (oil cans) Lacquer, Stiling screws Drills Emery wheel, goggles + lab Chemicals		19
Repairs + replacements to plant + equipment	45	
Repairs, replacements Material Machine tool steel, cooling belting pipe fitting + Electrical supplies		08
Executive + Engrg office + sales dept salaries	48	
Executive + Eng office + sales dept Supplies + Expenses		16
	1.61	1.03
Total 2.64		
2800 WEEKLY	117	103
Total 220.		

Mr Chlorimate) (cl 8c)	Jolnof	194 Jolnof
"	Xylof.	310 "
Cost Naphthalene Cl8fd		130 LG
Solvent Naphtha		21
Jolnof		12
Xylof		38

Cld at 8c including Cost Jolnof

Bad Fe can be treat Lead best by long low chrate. Reg A4 pocket which can 250 trans in tubs cells square 580 to 1160 gavs suffice 30 hours at 200 ma 1200 1775-1900.

Schmidt Tubs mill #2900 8048 8000 to 16000 lbs hours 95% than 100 mesh K thinks of 85% thru 200 vs (F8) can put thru 50 to 100% illegal Kiefer says 75 HP 16 618 66% thru from 20 mesh 75%

Jany 1 1911 Nassau Cement agreement Expires

	Trucks	upkeep	Bucket lifts	
Adams Ex	1.55	28.30	2.17	651
Atlas Venture	13	32.25	3.14	1020
Tiffany & Co	21	47.92	3.71	1113
Hern & Co	14	29.52	2.21	668
Macy & Co	15	36.01	2.13	639

Al.	27.3		Hg	199.8 *
Sb	122.0		Mo	95.6
Ar	74.9		Ni	58.6 *
Ba	136.8		Niobium	94.0
Beryllium	9.0		N-	14.01
Bi *	210.0		Os	198.6
Bo	11.0		O	15.96
Br	79.75		Palladium	106.2
Cd *	111.6		Phos	30.96
Caesium	133.0		Pt	196.7
Ca	39.9		K	39.04
C	11.97		Rhodium	104.1
Cl	35.37		Rubidium	103.5
Ce *	141.2		Se	78.0
Cr	52.4		Ag	107.66 *
Co	58.6		Si	28.0
Cu	63.0		Na	22.94
Di	147.0		Sr	87.2
Erbium	169.0		Tantalum	182.0
Fl	19.1		S	31.98
Gadolinium	—		Te	128.0
Gold	196.2		Thallium	203.6
H	1.0		Thorium	231.6
Indium	113.4		Tin	117.8
I	126.53		Titanium	48.0
Iridium	196.7		Wo	184.0
Fe *	55.9		Ur	240.0
Lanthanum	139.0		Va	51.2
Lead	206.4		Yttrium	93.0
Lithium	7.01		Zn	64.9
Mg *	23.94		Zr	90.0
Mn	54.8			

Records 10 000

	2 mm	4 mm
Wax 12c	174.00	174.00
Cardboard (Labelled)	99 25	132 55
Sundries	12 00	12 00
Total	181 09	181 09
Labor	165 50	165 50
	6.3c	6.45c
Freight	45 00	45 00
Pkg & boxing	51 00	51 00
Advertising	122 75	122 75
Agent &c	152 00	152 00
	1002 89	1015 89
	3.7 cents	10 1/100
	Equal 10.1/100	19 cents
Net selling price	15 2/10	3.62c

Piecework per 100 —

	2	4
Put on Caps	04 To 05	07 To 12 1/2
" Moulds on	04 To 05	07 To 12 1/2
Take off Trim (2 pcs)	04 To 05	07 To 12 1/2
Pull off Caps	04 To 05	07 To 12 1/2
Fold over	"	"
Remove	"	"
Put screw on Caps	"	"
Take off core	"	"
1st Inspection	03	03
assort	02 3/10	0 13/14
Edge	02 2/10	02 3/10
Refill	"	02 3/10
Polish & package	04	04 1/2
Box	02	02 1/2
Label	02 2/3	02 2/3
	64 8/10 To 88	75 To 119

8 Battery 825 week $3600 equal 8c
Labor 292 per cell —

Ball + Socket Together sequence 11 To 14 HP per bbl
Feller mill. 7 HP per bbl, Repairs mill only 1.6
Cecite bbl — Greffin mill 2.8 To 3.5 repairs

Victor Speaker weight 5 1/2 oz swing form 1 oz
Total 6 1/2 oz —
Pathe Concert 7.7/8 oz small box 5 oz
-dia Ball 40/100

24% of our Records are for Foreign Countries —

16% of Phonographs —

26% of the Films —

R H Beach 110 5th ave

To Reduce long tubes to short
multiply by 28 & subtract —

1750 × 28 = 13000 + 35000 = 48000

1750 − 1500 = 250 — short tube should run

According to Bailey's Recin
160 miles 40 lb +
712 watts Ton mile
See Bee get data

Oct 1 1909 EPCCo

Notes Banks	270 000
Notes Brucker RRT	146 000
Abstract	3 264
EC Miller	936
J H Thompson	1 849
TAZ 3%	661 270
" 4% 6 mo	268 710
Merchdise Notes	104 427
Total Notes	1 456 237

Accts payable

Pay roll	26 472
D&W for	61 067
Merchdise accts	84 288
Paint & plumb acct	16 704
	188 531 → 1.644 769

Things to be improved at EPC when its financial Repairs
Costs down — RR cars, rails, steel —
Carbons on Rolls —
dropping pulleys on Conveyors
Clean fuel coaler
Wear limits on 12 → 126
Screws Conv Quadrons
Limits on evaporating Conv
Repairs by Chasm

		wt Cf	
Cubic ft for plumb	1.25 cf	80	lb
" sand	.50	96	
" cement	.25	92	
Clay 3½ lbs			
water 3 gals 1 quart			
12.6% of tubes is scales			

See Reinter

Cement Probable Saving
mo
25 profit on Limestone 800 Tons — 3 } 4.96
42 Saving on over Lumber, Washer + 1 Saw
5 Saw belt wear account Overtaking Conveyor
5 Saw Chaffe in dumbers
5 New Packing House
25 Kiln Coal
5 Dust saved by Chopping Mills
1 Saving on lime 1 to 2 Lumber dryer
4 Less Repairs Mill cars etc
1 Bins in 3 Stock + Sloping Hummocks
2 Shovel in 1 to 2 Quarry

19.0

increase from 180 M To. 240 M monthly
utilizing Heat from Kilns

Selling Expense Monthly	11000	without Ex
Administration	4000	
General Exp + Commission	2000	13.0
Interest notes Dr	3000	
" Edison notes	4400	
	24400	
$6131 on 1500000 Lbs		
	without Ex	

Cost Aug Dec. 1171.

	A	B	Total
Mr Dealers March	690	299	989
March 31	760	349	1109
Apl 15	802	371	1173
Cost	A 6		
A4 1170	10.42		
Dodge Lumber	can go 12		
A4 1027	A6 1469		

Length short Liters 23 8/16 46 1/16
" long 65 1/16
4 1.5/ inches — length.

Plate	1	2	3	4	5	6	7	8	9	10
Amperes	84	112	140	168	196	224	252	280		
Weight	22	28½	35¼	41	46½	52½	60½	67½		
Discharge	21	28	35	42	49	56	63	70		
Amp Hours	417	556	693	835	972	1112	1250	1390		
33% off	278	371	462	557	648	741	833	927		
8	263	350	436	525	611	699	786	874		
	154	205	255	307	358	409	460	512		
Cost	7.47	9.95	12.38	14.91	17.38	19.86	22.33	24.86		

Bins P.P.C. Stamped sent Thursday
Jan 240 M — Feb 1 Mont 3570 M
Monthum 20 M —
Jany 1 1909 To June 1 1909 Bins Recy 10 1/2 M
Month 229 1234 M — September 153 M — October
Stamped

Velour Records 8"	Lockers	Dealers	Total
	17	21	38
" 10"	30	40	60
	50	66	100
12"	45	66	100
10" Turnip Oil-Soft Felt	67	90	150
12 " "	78	90	150
10 Red Seal Velours	112	150	200
10 American Red Seal	45	60	100
12 " "	67	90	150
10 Violet Red Seal American	90	120	200
12 " "	135	180	300
10 " Jumpy	300	300	500

Old pockets Bismuth

per gram	grain
1%	195
3%	258
6%	289
9%	309
15	332
30	251

Big Rocks
4½ × 7½
14.13 in circumf
Velocity 37.58
8.75 mm on 7" surface.
Wt

Victor 12"
2.75 length record
Speed 1/8 Roof 3/32
Brick Roof 3 1/16 min
Speed 22.18
Bullet 460 in minors
average Mean surface
Vel 34.4" Cord without bullet 300 grains
Cost 6 cents per clock

Height 47 inch 18"
width 6" Rock Crany
27" long wt Rocks 1
116 lbs (1/5 mach) by
Mrs

26 gram lead 1% if brass for 5.2 gram flake
7.81 grams metal 1% = 15%
lost 7% — had 9.4 = 18%
18 grams grees 8.05 Illegal 7.8 grams 19.85
Cracked - latter bullet Breaks on 6 grams 28%

SB Cells 2% Lead Sheets
Single Lickes 2 Mes

wt 1 as cash 33 Empty loaded 3800

9 lbs flake from 15 lbs punching 333 gal Cu Hg 50 g. 1 grams co
good for 100 lbs of Ni flake pot.

Nickers McCormick 856 869 961 9 971 1088 1154

Cost 62 lbs flake
24 pounds Ti get 90% of oxide so for only 70 — 24.80.
Cl Sol — 41 lb of 4½ c — 186
Na Sol 4.83 gal 11 Cents Lbs — 201
Refining bath pour — 20
100 gal distilled H_2O — 100
142 lbs H_2SO_4 — 125
City Water — 350
Power 2½c KWH — 482 KWH — 12.06
4 men 23 hours — 1840
Cu Cu oxide 36 lbs 16c — 6.61
Labor cutting 1 lb 6¼ cents
Separating 1 get 15c for Cu O + only lose 10% NH
2½% cost per lb Ni f pot. 135c lb now 165.

Average Grade Neg filmes 140 feet cost per foot including
everything 565 to 600 per 100 ft
Average selling price 8.55 2.7 profit

July 1 = EPC 21731 prof 91470 Com 759 Gonder 884 no Ind.
Cincinnati 252000 — 228 m dues from Cincinnati 260 m 66 Cincinnati
161 m Division motors 43 m Quincy 4 210 m Ind 123 m Mahing
220 m Zeiler no 18 makes —

900 / 14 = 62
620
8
2
1208
4

25
322
3 | 37
12

7800
234000

100

2400
984
3384
120
6768
3384
406.08

24
41
24
984

27 | 1500
1620
120

136 / 14 = 9.6

12 | 9.84

12.2 / 8

12 | 600 / 5 = 120

911.37

82 | 446
600
41
3
2
1
117
4800
1854375
825

33

2592½

2,160 445

267

450 (21 182 90 1157

26 17

44 890 8099

267 1157

1157

1950

1950

2200

450 3178 1150

1624

2,800

1,400,000

3178

2,800

65 65 65

42 62

23 130

82 5 57 390

890 50 350

225 285 40 25

22

160

350 50

475 32 45 75c 18c

2500 18 885

2975 640

75 14c

9 24 59 57

65 50

45 5 37

325 28

14 370 50

56 65 25

22

416 55 50

50 25

275 50

1100 56 50

500 65

140 275

300

32

Notebook, PN-10-05-01

This pocket notebook was used by Edison during 1910 for notes regarding experimental work and other tasks to be performed. Many of the entries relate to proposed applications for Edison's alkaline storage battery and to the marketing, sale, and performance of cells. Included are reports of road tests made with electric vehicles; statistics on the cost and efficiency of electric traction and on the use of electric trucks in New York City; notes on battery shipments, production costs, and related assets; and descriptions of experimental work on phonograph reproducers, recording methods, and cabinets. There are also entries pertaining to the hiring of Converse D. Marsh to promote the battery and Sydney W. Ashe to research its use in locomotives; a reminder to contact J. P. Morgan, Jr., or George W. Perkins about approaching the Southern Railway Co. for battery business; and occasional notations about cement, phonograph sales, and various advertising ideas. Among the employees mentioned in relation to individual tasks are John R. Anderson, Jr., Ralph Arbogast, Robert A. Bachman, Frank L. Dyer, Walter E. Holland, and Carl H. Wilson. The pages are unnumbered. Approximately 75 pages have been used.

PN-10-05-01

☆2996

C.B. Keese

Naval Elec

Computer

Anderson put carriage out on trial where you have Garrage —

See Taxicab people get depew —

3½ Ton wear that is equal to 168 vehicles both sides of 84 on a side, it makes 600 Rev daily — equals 100800 vehicles one day if vehicles 1 every 50 ft of street at 8 miles hour - 888 vehicles pass every hour at in 10 hours 8880 vehicles per day 1/12th of 1 days tests hence One day on test wheels Equals 12 days of a street, 26 days equals 1 year —

figure out minimum unit
Cement pavement for
Canada —

RR Notes.

Tractive res level, medium heavy trains best condition 17 lbs average Central London Tubes 113 Ton train 7 cars 20 lbs starting has been conditions where 40 lbs on 26 Ton train rare

Tractive res Zossen Test 83 Ton 75 ft car
35 M hour 7.75 lbs per Ton 40 M hour
10 lbs 50 miles 13½ 60 miles 18½ lbs
increase almost all due to wind res
wind res almost same for one car as several its a function of the end + front

In all tests there seems to be a constant figure of 6 lbs per ton mile to pull + a figure for head + tail wind res depending on speed – Wind res only becomes of importance after speed of 30 miles, smooth sides + rounded ends greatly diminish it

Power lost on curves 390 ft radius
11 @ 15 lbs per ton extra

Investment in plant + transmission system approx proportional to weight of cars

gravity 22 lbs pull per ton for one per cent grade

Closed Trolley longitudl seats dead weight per passgr seated 600 @ 700 lbs
Cross seats 1000 @ 1200

Average paying load fully loaded 15 @ 20% of weight average of day load 8 @ 10%

40 miles hour 50 Ton train 80 KW
100 Ton train 140 KW
200 Ton train 200 KW

Long distance high speed train should for efficiency be composed of many coaches weight being a secondary considtn. on other hand for frequently stopping low speed trains should be built light but whether of few or many coaches is of small importance as far as efficiency is concerned

Acceleration - Tracting force 1 mile per hour per second is 100 lbs on a level track per ton =

acceleration has very little advantage where stops only average one in 2 miles

Efficiency Indiana Union Traction Co's
56% to Motor - Motor to track 20 Total 42%

20 mile run train wt 300 Tons accelstn ½ mile per hour per sec rate of braking 1.25 Coasting 40 sec Time of stop 30 Sec including lighting + heating 3 months

20 miles hour	100 KW	
30 "	150 "	
40 "	200 "	
50	250	

Use of Rec causes large loss on present trolly - has poor regulation, limited to 2 points full series + full multiple, on these 2 points cars must meet all conditions Motors must be geared to meet maximum speed which makes them very inefficient for slow speeds, or whenever many stops are made, all kinds of devices tried + failed If geared 20 mile h then on accel at a certain rate it takes 25% more power than it

geared to 16 miles per hour motors
may be easily overloaded & burned out
If 4 motors used it can be remedied
somewhat but it complicates and is
seldom used
Violent fluctuations of power stations
require storage batteries

Regenerative braking at 1/2 mile per h per sec
34% recovered if 1 mile per h p sec 29%
Where low speed & infrequent stops
regenerative have little or no advantage
Best way is to accel cut off, coast
& then hand brake, coasting has higher
regenerative than current regen
as the net,

Watt hours at axle per ton mile for a
200 Ton train at schedule speed 30 miles
hour between 1 mile stops

Accel miles per h per sec	watt hours
1.00	117
1.40	57
1.80	50
2.20	47

hence high rate of accelerations is
desirable for low watt at axle it however
may entail an unduly heavy equipment
& other disadvtgs —

Get proceedings of Amer Railway Master Mechanics Assn for past 10 yrs

Try get Hughes Candy for Huy

Frame and equally def in Coal Cost & Cascade as finally per H.P. nat

See Barrett & ask if he wont use card system & keep his Cascade separate acp from Electric

See McChesney Advt for Bailey & Lundin Truck Journals Mag

Wades Book

Lead battery –

1st High rate dischg most potent cause 328
Sulphating + rapid deterioration of electrodes

2 To prevent sulphation from whatever cause
always recharge batty the moment it has
finished dischg + keep it fully charged p 328

3 Overcharging is bad. p 332

4 When battery not in use should be fully
chgd + again charged every 2 weeks
while out of use p 334 –

see p 336

Dyer Dolbear &c

New selling scheme

Buy horse & harness 220
wagon 350
570

Closed like light delivery wagon
Shelves inside - hold 6 or 8 phonos
Records —

Put out 20 Experimental wagons
Cooling of 11,400 - select 20
Not where dealers —
Dealer furnishes phono & man
We furnish wagon, 50% of
profits after Expenses deducted
gross to paying us for the Rig
until paid for, if after Trial 2 months
a dealer fails, Wagon & transferred
to us somewhere else,
10 phono 500 Records,
Possibly 2 or more dealers
or even 10 dealers combine
together & put one man out
then can go over large territory
& be supplied with phono wagons

& if successful they could add
to number wagons
An electric could be made for $1500
provided with 1 Cylinder 1 HP gasoline
& motor to change battery by running
motor on gasoline by using a clutch
Man could get over twice the
territory - but think horse should
be used for the Experiment,

Dyer, about attaching Marsh
on 20000 prospect Lansdale

Review Marsh's letter. don't
read good about to Dyer also
show in Auditorium cabinet,

Think Lansdale should have
another man in N.E.

Talk to Dyer & Bee about
Lansdale man in Boston
2 Chicago St Louis - 1 Phila -
1 Buffalo - & Territory -

Barley Reg 40 A 6
2070 lbs

Anderson 2130 40 A 6

Preliminary Test Anderson Vehicle

2nd Speed (battery parallel)
Wt 2130
315
2445

25 Volts
38 amp
11 miles hour

86.3 watts Carriage mile
with 12960 watts 270 amp 150 miles

Anderson Motor showed work
at 14 miles hour 1/2% grade
at best efficiency per low mile
& slowly rate of battery
& Lower speeds Control by Res
to 1/2% grade 25% more than level.

3rd Speed (Bat parl) 24 Volts
55.7 amp
Speed 13.25

100.7 watts Carriage mile
12960 watts 270 amp 128.7 miles

4th Speed series - 44 Volts
51.4 amp
Speed 16.5 miles hour

137 watts Carriage mile 72 miles
Had V been 48 78.5 miles

Waverly 45 A 4
on level 30 amp

Get Diagram of Connections from Anderson also Bailey

Speak Anderson about speed Button,

Look at a Ford Chassis - see if can put in Motor & Battery & price of chassis without Engine or gas appliances - also Buick, Hyptemobile -

Ask Perkins YPM to send Harvester man over in Re battery for Cutter

See Perkins or YPM yr about proper party go to Southern Ill SB Cars, they using the Gasolene Electric now

Day outing - dd when ready to advertise must have a book of runs etc

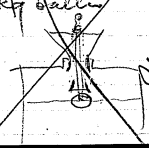
See Bolland about a stand for good motor - to make mile tests on Electrics -

See Tow Leyland getting along on SBat report,

Remove tubes from a grid & put back & press again ask how many times can do it - also strip rings off see if can do and again, also ask if can cut 1/4 inch off tubes & reload for a shorter battery Fred Ott do it - Use an old Long tube that has 6 2x10 mm & cut to use as short tube - using same rings -

Ask Dodge how he succeeded using old E18 Rubber parts go over to Battery -

Dalley make a funnel fill Spitz battery



Martin get Sheet Brass Co

High rate discharge A4 11389 –
charge constant 1 hours 30 amp (stove 95° Fahr.)
Discharges are follows:

Rate dis	End Voltage	amp Hours	average Voltage	watt hours	Temperature	Watt Effy	
30	.90	171	1.215	—	96.4		
30	.90	170	1.207	205	94	56	
30	.90	170.5	1.207	—	89		5
60	.80	163.5	1.105	—	112		
60	.80	168.5	1.120	189	115	51	
60	.80	170.	1.115		113		
90	.70	168	1.04		130		4
90	.70	165.7	1.03		132	47	
90	.70	168	1.03		133		
90	.70	166.5	1.04	173	136		5
120	.60	167	.925		143		
120	.60	168	.925		143	42	
120	.60	165	.927		136		
120	.60	167	.930	155	141		5
150	.50	165	.830		157		
150	.50	162.5	.848	138	154	37	
150	.50	162.5	.832		154		
150	.50	162.5	.850		158		2
180	.40	168	.772	130	167		
180	.40	169.5	.777		170	35	
180	.40	157.5	.757		163		
		90%					

Bailey - wt 2 persons 2385
225 amp 48 V 10800 watt h
80 watts Ton mile 113.2 miles
80 " 285 amp 143.3 miles
100 Watt Ton Mile 90.6 miles
100 285 amp 114.7 miles
MV13 {100 watts 75.1 miles
200 amp {80 watts 92 miles

Anderson Wt 2 persons 2445
225 amp 48 V 10800 watt.
80 watts Ton mile 110.4 miles
80 " 285 amp 140. miles
100 watt ton mile 88.4 miles
100 285 amp 111.9 miles
MV13 200 amp
100 watts 220 lb. 2 Ton 72.7 miles
80 watts. " 90 miles

If 52 Edison put in to make weight same as with MV13
62.4 V 225 amp 14040 watt.
" 285 " 17784 watts

Then the Anderson will go on
100 watt 225 amp 105.4 miles
80 watts 131.7 miles
at 285 amp
100 watts 133.4 miles
80 watts 167 miles

If we take 168 amp for MV 13 as the average capacity over life then Anderson at 100 watts goes 60.9 miles
at 80 watts
+ 75.6 miles at 100 watts

A Dodson 1 horse rig cost
1 year wages $300 board of men
$184 $629.19 in 1908 $729.94 1909

Exider Kyzap Battery, make-makers
recd in N.Y. Edison Monthly
Rib at bottom of jar 1 3/4"
sediment should be cleaned out
when it becomes 1 1/2" high.
If after chg. 50 times cut open cell &
if 1/2" deep then at same rate of
deposit

Select a typical route
for our ability here

Investigate amount of Iron
used in Cells, they order
2500 lbs to ask for 600
Cells – find out how much
they have on hand –

Patent a pavement of Concrete
composed of sand cement
& small stone aggregates of
Trap or Quartzite

Throw neat cement on some
street where traffic is heavy

Lay out a Car with 2 motors
& chain Reg 4 or 6 poles in car
Chain drawn on Gallery shelves
Shelves Heater & cer compressor
& condenser – Rough sketch
then have Scott lay out
car –

Dodge battery test & see
if you can't using more
flake than usual –
getting flatter etc –

find out who makes Reg pole
Chain & then how big
they can make them

Lansdowne Asphalt Course

Bailey Rig 2 persons Wt 2470 lbs

	V	amp	watts	
2nd Notch	52	21	72.6 Tons Mile	
"	52.½	18		
"	52	23		
"	52 ¾	19	Speed	Watts 1000 ft mile
	52.25	20.2	11.8	36.3

With 225 amp at 48 V 120 Miles 285 amp 152 miles

3rd Notch	amp		
50½	31		
51	26	76.6 Watts Ton Mile	
50½	32	at 48 Volts average	
51	24		
		Speed	watts ton mile
50.75	28.25	15	38.3

With 225 amp 113 miles 285 amp 144 miles

4th Speed

V	amp	109.7 Watts Ton Mile	
49.¾	44	at 48 Volts average	
50½	35	Speed	watts per 1000 lbs
50	39.75	15	44.4

With 225 88.5 miles 285 amp 124.3

New List of Automatons from Churchward Lynn 60 V Edison Battery

V	amp	Speed	Volts	amp
1020	85	2000	60	28
1025	"	22	"	32
1026	"	28	1200	40
1022	"	30	800	40
1022	"	40	1200	55
1027	"	60	900	85

Storage Bat Car Special

1022 85 V 30 amp 650 RPM

1022 85 V 40 " 1000 "

These motors will commutate perfectly with a much higher voltage #3 wire 100 cells of battery used

For plating Iron 285 gms $FeCl_2 \cdot 4H_2O$ 102 gms NaCl per liter given 8% Fe & 4% Na 95% efficiency Non Crystalline & good deposit Deposit Iron used Litl Hcl to prevent black scale

Look at Lansden wagon drawings & pick out those for Plane Valve Co.

Ask Martin about Ashe of the Pratt Institute & author of book on Elec RR.

Speak to Hallinan abt Coal cells instead of charger for deschy using down grade long climb time for Greek gloom 50 Kwh so as not disturb Contacts in Motor tube

Get right name for the Lansden Magazine

Dodge cut some more 1/2 area flake - 10 lbs plate

Dodge see how many times tube can be put on a grid

See Lansden & Dyer abt sending out circular like Plate Battery Co

Put up 2 cells with 4 tubes 15 p/o B.O & 1 5 gpm Reg for pocket see how affected by B.

Go over to Chas. Ekard O'Rooker
Bracket RR's Bat Loco Motor
work on Performance of Expect
Here -

Ask Pulse Jacket over
Catalogues RR motors -

Can save 22 c lb on flake of
Iron Can be used -
If drums are made twice dia
at twice as long - Can save
22 Cents more
If can put some Salt in Ni Sol
to diminish Voltage Can
save more - possibly the density
Can be diminished thus lowering
Voltage & might save more
Upon loss of output & Extra
Labor

Draft Gen'l Letter summary
SB Loco to be sent to all
presidts of RRs Elec & Steam

Per Bennett about
Catalogue -

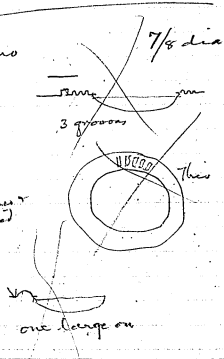
Anderson Vehicle
photo showing weight of
Lead Battery represented
by 7 persons on it,

Pierson Wake & Rawlins
for Dupont -

Bismuth Lead Copper Write
Eng Min Jnl 89 773-4
Bismuth King Mine Sinaloa
Mexico — 2% Bi ore
Smelted to a Lead Matte

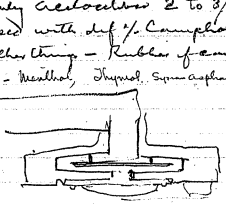
Mix 50% NiO & 50% pass it
& Reduce in H_2 500 of H_2 acid
in Kott.

Thoro

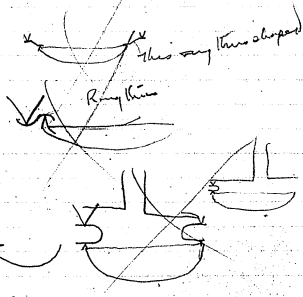


— Smaller ring Larger Center of
— 1½ @ 2/1000 with rivetted Corrugation

Greenly Celluloid 2 to 8/1000
shaped with dif % Camphor
& alcohol thing — Rubber foam get
it in — Menthol, Thymol, Spun asphalt, gutta perch



Double chamber or platte



Wawanuchee - see if they have
guns ammunition & chains

why not run small ads for
Blackman & possibly Orange
in my paper & keep them in

Talking point the reason
E Gulley generally
requires more water
than a Lead Gulley
is that if you cover
~~the~~ change a lead Gulley
very much it hurts it
whereas users know they
can change an Edison
Gulley ~~at wards~~
~~the~~ a upstream up my
corner of Gulley is full
& can't flow no more
Current it decomposes
the water & it goes off
as gas.

This is one of the best features
of E Gulley if ~~it~~ ~~had to be~~
~~water changed or changed~~
~~Lead Gulley there would~~ b
one makes a mistake or
is careless the only harm
done is that they have
put in a little more
water when they fill it

Go over to Bat Co &
pick out 6 Lead
End tubes & run
Current

Dry green with odd Sulphides
in Quick that no dear
dry but just so it will
percolate without from
too fine they dry freeze

Take old long nun tube
Utah Cow & CO &
Scratch brush the holes
to clear Collonds out of
holes, might roll it so
brush works penetrates holes
then put up + Return

Grind $MnSO_4$ & NaOH
together with a little
water then put in cloth
& squeeze all the liquid
possible out of it
dry - percolate + test

Drip use same stuff
press, then wet with little
water, repress to get more
sulfate out, dry, percolate
& test,

Precipitate just enough water
to make a mush press
+ dry + percolate

See what we actually
bill England & Australia
on Records —

Make saturated Sol of
Ni Sulfate Cold and Lump
than 33% NaOH, precip
then press in cloth in
press, dry and percolate
test part & other part
put in bottle water wash
+ Repress

Analogy for flexible truck
take wrap on spring shock
on end Easily broken
but not on flat yet on
Edge its several times
stronger

Starter for elongating
Loco for Battery also
light truck

Talking about frames from Lead Cutting Costs up the nonworks of the Vitrolite — See Precedent letter,

Billy Bee get actual weight of Lead Cutting & Tray 3 say 11 or 13 pounds Epidi,

See Weber a Amberola Repdeus & find out what the matter

Pierman make a very much more delicate knife & spring more long flexibility —

& put adjustment on

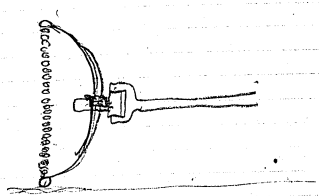
Take up with Weber about his going down to Cornish factory or Cornish coming up & bid on Amberola Cabinets,

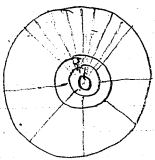
Figure out a plan given by McCherry for paying part of Cost of Cutting on Amberola,

Fred Ott strait seam 1/8 tube
ditto 1/16 - 3/32

Cut off ends long tube so to right to cube on arm & heat in 33% Rott & Glycerin see if all gumes out of tube —

Pierman put a strip of felt def Unknown on high notes part of piano & take records Edison assort



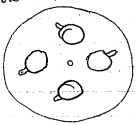


Put Bally add in
Insulls Monthly —
page — also Delands

Dip a ¼ min record into
some of Petrolatum stuff —
See if come out by cold & if
good —

Photo an idundersion Carriage
with top down and 2 men in
Coming 4 men of 150 lbs
& boy 75 lbs all hanging
on — Large size photo.

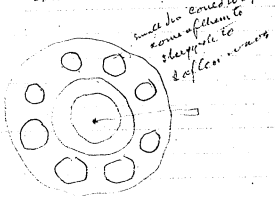
Make Reg rupder copper dia
with 4 celluloid or Mica valves
~~Chamber~~ on dia within Chamber



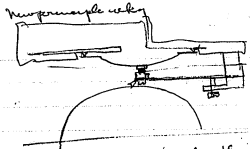
So ball going down in record
they closed — Coming out they
open if spent shapes really
make all variation
may have to have spring held down

also try disc with 4 holes 1/4" dia
thin rubber connected 0.08 to
soften waves. Thin valves too
near head —

Make a recorder 1" ring with extra
orifice 2" chamber of permeable to 1.002
aluminum in to put rubber or other
1/16 diaphragm to soften record



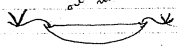
Nonpermeable valve



Gramling makes the aerofoil
film for disc with Camphor &
def drops in —

Hence Pierson try thin rubber 10 to
20 thousand at knife 2 degs
packed on ring disc narrow —
thin spring pressure reduced to
minimum — .002 disc — 1 oth
put 2 or 3 valve holes — Gaulin
wash with sulphur valves too
soften record —

Walke



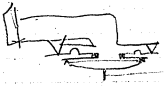
Get Cap disc Auxiliary & one over sharp disc
to put valves on to see if can soften

Why cant we establish record recharge Galiman all the dealers, so one having empties can get from us - ie national filling order book up record of full from some diff. dealers empties ditto jobbers see of scheme this kind practicable

Information Bureau - Cost mean would be good sum to get necessary information & check has the bottle got out of keep & might up to dealer, only pass go in phone & the Supreme Danger.

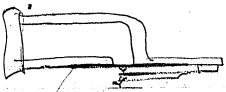
1880 Census 577 Towns 4 ill above 300 people

Balance wheels on phone, needed -

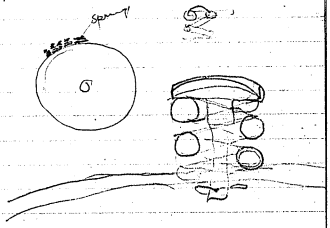


Try

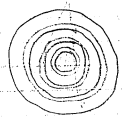
Red Premium



glass bowl flat on flat surface & held flat by springs
glass lens - by celluloid ring fitted pressed flat - ditto fixed
1 3/4 dia



Rings which oil between

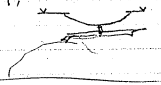


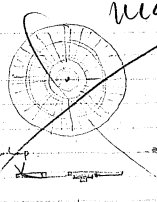
1 5/4 -
Collar Long

good = .002 to Pioneer

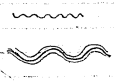
Pioneer

change the Big recorder many details
To double leverage,





made
good



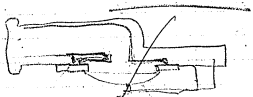
2

all Corrugated together 2 rings + solid
Center Cor on outer Edges
big ring 1/32 outer Edge inst corrugated
32 Corrugations 1" dia Lapse 20/1000

Take up watch Mac Cherry
about Sep Catalogues disc +
Certificates & high & Cars
Catalogues disc only

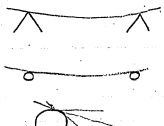
Dyer Smith Turbine
& hot pressure Rotors
have I patented d

tell Brachman Cement works
have received tons float
for concrete road



Rubber dampers each he has

Layout this



Thick ball shape edges bottom as thick deepen down slide

Cathode each 1/8 wide ring 1½/1000 acetic, ~~[illegible]~~ inch + half dia —

Goldstein — precip $Ni(OH)_2$ with $NaOH$, dry to get high loading wet
ditto Nitrate
also precip $NiSO_4$ with $NaOH$, wash by decantation 3/4 to 4/5 of sulfate out + put in supplement of $NaCl$. slow wash + dry for heavy loading wet — ditto KCl — ditto Na Nitrate
Na Acetate, ditto Sulfate ammonia
ditto $CaCl_2$ ammonia, ditto.
$CaCl_2$ Calcium, Sulphate Zinc
$CaCl_2$ Ba, Borax —

Anchor — about small tube gr. being assembled wrong with iron —

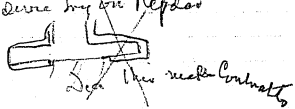
Premium to Exponent on Knife Every angle & Every kind with best 1"
Pinter recorder - also new craft
Lamp with Prof 1" picture recorder

on Big wire try Thimmel glass
+ Knife Edge to under. Written 100%
with picture lines - also wooden
loop all on skin + ring of velvet to
hold against Knife Edge -

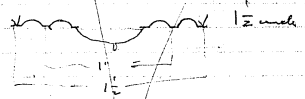
Set up lot of 4½ tubes .005 + .0035
.003 — square + obtuse tubes thin
~~[illegible]~~ thin rings — steel chamfer
thin rings — also 1/8 product
15% B.O.X also best Galdabini
Burnish -

~~[illegible]~~
Bring over a bending machine -
+ make 2 wave coils with 16.5% Boron
Green + Use chamfer + 5% KOH to
form — + use Exactor Li Effleurado.

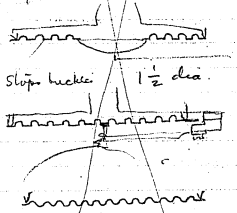
Be Devine try on Regular



Try not only Corrugating but moulding on shape - (Hook Edges by velvet)



(Hook Edges by velvet -



in trying for Big Pillow, dedut have Commercial
hence I blocked my ...
1.5/4 ... .002

See Dodge how he yanked loading mac
more flat plates + instructions moved
lately bad —

find old patent where
rang had 2 windings
& used with Commutator
to raise Voltage up —

Tell Meadowcroft about
old Caveat where O+H made
by Coconut & Zirconia
from acetate, used as
burner — Welsbach —

Jimmy investigate why flakes
gets Copper color with fresh
green in loading & it
it does not with bad
Regs. was lately used —
Have a good green & bad
green analysis for Cop & Cobalt
Jimmy flakes on green
Also blue & clear green

Jimmy Go on Copper bath with Kelly & Cummins Solution and
Wooden Tank Experiment

Goldstein Reg up by Copper
plate to precip 10 lbs at once
with Stirrer & also
deep plate to dry as
can make full pressed
Cells — When this
Regen up make
10 lb Lot Bent Bismuth
Cell 1707 — 100 lb Rain
3883 & 4 9 Chunk —

Drop the 1707 B. group
in Long Cam with
3 4 & 5 gm
Lot Ott Equal Cell —

Look up 21 R 10 BCP —
that Burned Tube
& test 1/8 inch
Tubes for Burning
also a Reg — 1/4 "

See Buchanan about helper
Crow on spring wheel —

Arrange with Dalbear about
Cave in W Va —

Another get RA lowest reg
set up 2 tubes, with
old flakes up to 1423 —
& Run test,
See if Another plunger end
aint worn — Cut open
Or take new RA reg & look
at it under Micros,

Look at some of 15-20%
B, where hydrate mixed
See if any Crystals —

Ask RA if he ever
percolating different,
in last 2 or 3 months
or longer — as to temp
water — or vegetable &
drying of percolated stuff —

and the kind of water used,
(the sort take too much alkali out)

Branch about getting a long
Charge now + then to Car
battery —

Goldschmidt Very good + good reg
green — for alkali with CO_2
taken things —

Note Dodge Tubes + two of
green Coming pkg to RA
Reg bad green and shown by
end tubes

Dchild — higher belt speed
on disc — slip both pulleys
with soft leather cemented
on or riveted on —

Spurrite's test link -

chain. good

~~Precip Cupr SO4 + little carbon monox~~

Saturated $MnSO_4$ + 33% NaOH.
with 1/5 vol + NaOH then deg. Exam
ditto 1/4 — ditto 1/3 ditto
1/2 — boiled 1/2 hour — pressed

Then Conc $MnSO_4$ - 33 NaOH.
Little Glycerin - boil 1/2 hour press
ditto Little KCy —
" ~~Carbonate~~ Soda -

Take the Grain from several old
Tubes, treat glyc & KOH, remove
grain boil & force it from
glycerin & put in 2
Tubes test its Capacity
also

use the flake, on new grain

Ask Hallam: how tests are on old
Fe plates run through H + recoungled

Guldsler test Natural
See water for solids
as against drunk
water — for battery

Ashfield about [illegible] pitted
on Rep Meadows

Precip some MnO_2 ~~of~~
~~take some from pots~~
fresh Sumac on glass
then boil + sumac +
keep it for several
hours, see if under
Mers it change
ditto with glyc
ditto KCy ditto
~~Carb~~ Carbo Na

get weight of 1/8 tube good as compared with 1/4
also tubes to see what full wet cell is —

Holland Wolf not enter Bug Cell tests in small Curve book & then correct from time to time, put full & normal on

Dyer Wood Wilson Elo decide machine Schuft for high speed belt, & Leg Cabinet,

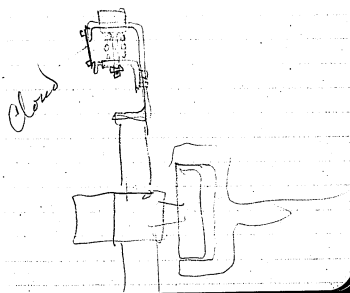
Decide cost shop orders for all kinds machine — number of dies & dies made

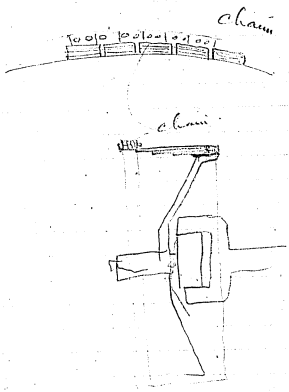
Dolbear get wet & dry Contracts now used

goodwin pushed to find out best delivery wagon people —

Dolbear Wilson Elo to work out plan of contracts & stations for installment

Geldstein test good & bad MnO_2 for a/c —





Find out from McCherry
Principle Carriage
Jobs also when next
Convention want ad
& also exhibit a full
up a family Carriage
Leaflet to get Carriage
Dealer W

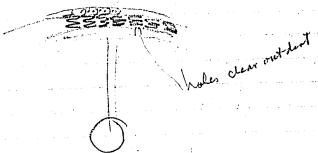
Get Lest Jobbers put on map
& designate those which
are Vic only V+E &
E only—

Send leaflet when ready
showing records lists
also Capt Healey & Co
& Trapp Elg all towards
underwriting forms to
go into Family Finance

Walke try if can walk and
Hammer the 006 Ivory
finish Celluloid—

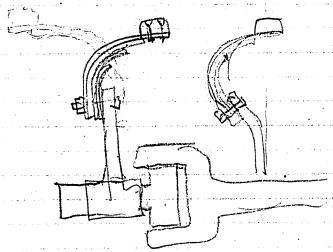
Pierman try reg felm 1½
& acetic up Camphor

chain —



Chain Threaded

Got several Varieties of velvet & plush
& Corduroy — Hahne Newark —



Look over Gel Electrics for similar image
Rabbit, a few times etc —
Dyes, Fertilizers — Ethylene used in Soap
Daily Change the Bag for mail —

Try Lac & Tetra & a very low MP Vehicle
substituted not dissolving Lac or after Cooling
heat to Vaporize the low MP Solvent.

Try Lac Tetra

Schuffel = have screw feed arm on disc cam drop up at end – of 12" for get ahead Costs over advertising last year – printed matter etc

Dyer-Smith patent Velvet ring & also drop for 50½ area flat other non flat – & edge wider than between – also please Velvet, a rubber finger edge on ring – get Copen & stay & apply on Corrugated chen

Dodge see if residue in Benzine that tube washed in –

Archer Drop 2 tube in Benzine Cooling paraffine, & try

Bergman What proportions of poly roll is phenol

Dodge set up 6 long tubes from Dodge with bad ends & 6 good ends same batch of fl & MOH mix together

Write Bergman for a letter to Geo Ehert

Patent Disc records name on ~~Edge~~ outer rim & slits to show in so each record name seen also names of both turns on both sides, one colored to show name on that side –

Patent the ways for stop hunting diamond mine & Schuffel

Schuffel patent the Separator
paper felon for [illegible]

Get model of Horn 60,
Disc right away

Arrange drawers in
Auchenbach to take
both disc & Cylinder

Run the 2 disc Motors
15 day night & day
to determine wear

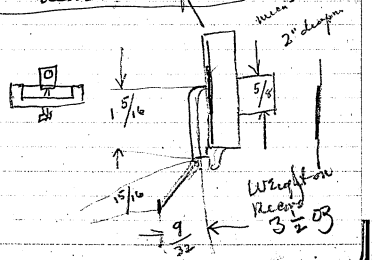
JWA, Same wood pulp made
out but in minor Glasses
Extra provided –

JWA try Victor disc material
on press & try diamond for
wear –

1890 – N.Y. 753 Towns –
pop 1 444 000 State
NC 866 Towns 1 618 000 –

See Hathaway, about making
this winter before see him get
statement given Hornemann Rep
of National,

Victor – How would it do
to draw gum back .6 ft
back relative to 1 ½ ft disc
so it takes on coal drop
remove 2nd at Kiln –



Sell Borroughs stock,
get Coffin on telephone top of the wall
for there ought over to sell downtown at
Cost if take it for keys

Holland Clay Ricard Cotton
from Lebanon Ohio
Blue Stripe Bulby

E E Kimball Elec Engr
Gent Elec Co
Keeps sent here over

Dyer about enlarging
Piano Salesman Hopkins Co
ditto Clerks who would
get out in air for
wagon
better Singer Sewing
Machine agts
they ought to have
experience

Eat copper 6 oz 10 gram Cu 1 gram Fe
+ 32 gram H2O2 20 Drums
this work wants air —

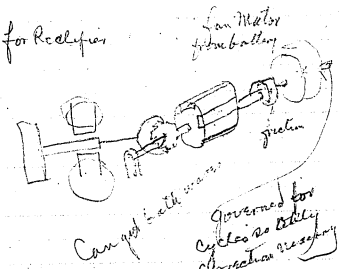
Have Archie put up
some board screen with
new tubes holes more
open — ditto with rings
more loose — ditto not
squeeze ends or clinchers
like mix at all.

See Dyer about having
Scott to visit all reps
Eng Sales in 12 wagons
+ say dwr should have
more men than Scott
over gang poor stuff
waste money.

Buchman Wales
2 Rolls 3" dia 5 long
Rubber mixing roll
steam heated, discs heated
for mixing dope for
Exptls records

Squirt jet thru die shapes
of records.

for Reliefs



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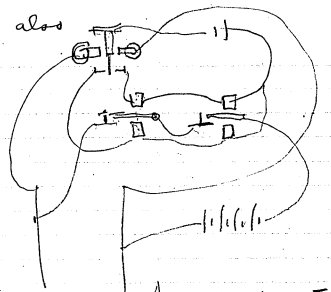


Sounders 4 or 5
Large Comb contacts

See Monell & have his directions
Just battery by influence ~

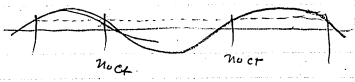
See H W Perkins Co
Mac Steel Co & get what
users now put Ovonic

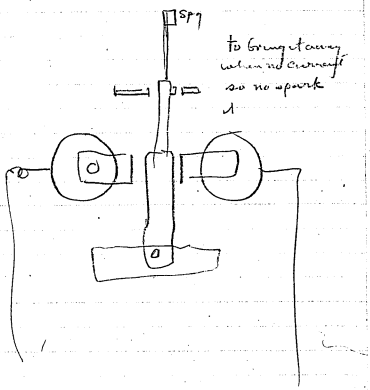
Dyer - How about establishing branch
Pathé Film Co in Europe,
Australia etc —

Try asbestos shellac in
Montan - to harden or lengthen
if not harden enough try
boiled white 3c asbestos fibre
with the wax - as much as will
still make it thin enough
To Spin - to use round balls
+ 2 oz cut on Reg 7½"

Try get Phila washing
Balls, Pittsburgh + other
Central station very found
Electric + make lockers +
~~boys~~ peddlers leave
over along belts or
truck —

Tell Motorman





Genl Vehicle Battery Lines

Selling price of wagon	2200	2650	3400	4000	4500	
Current in amp on level asphalt	22	26	34	42	50	
Discharge rate for 6 hours of flooding Not	22	26	34	42	50	
Number plates per Cell	11	13	17	21	25	
capacity of battery in KW H-hours	11	13	17	21	25	
approx weight	1100	1300	1700	2100	2500	
Cost battery 30 per plate	330	390	510	630	750	
Cost renewals of plates & separators 17 per plate	187	221	289	357	425	
Amp charge rate 3/4 of discharge rate	16	20	26	32	38	
Speed wagon level asphalt average for day	12	11	10	9	8	
Miles on charging running continuously level asphalt	72	66	60	54	48	
Charge for cleaning all above Not	35	38	42	45	50	
Jan	1,95	210	235	265	300	30% off
amp hour cap on basis of 6 hour rate	135	162	216	217	324	
amp hour current necessary for full charge at 10 hour rate	162	194	260	324	389	

Shipments Bottling			To exp.
Jany	2403	80	$880
Feby	2242	80	880
March	1787	58	638
april	3840	128	1408
May	4218	140	1540
June	4154	138	1518
July 23rd	3572	179 23 day	1969
July			

Return Records + shipments
Jany Shipped 230834
(Returned) 57571
24% of shipments

May 1910

Commissions	268.
Sales ofs Exp	9734
Advts	3900
Genl Office Exp	2165
	$16067

Cash discounts Banks etc	1700
Customers dis for cash	631
	2331

Total $18398 monthly

140 M sales 13.1 Cts fixd chgs

This equal 5% on 400 doz cases bottling co by

Comical Trucks

	No. models	Prototypes		No. models	Pickups
1900			1907	70	6
1901	4		1908	48	6
1902	6	2	1909	74	22
1903	62	3	1910	51	14
1904	38	6			
1905	68	5			
1906	63	3			

	No.	No.		
Vehicle Equip Co	40	210	Chemical Equipment	4
Gene V Co	30	208	Gibbs Equip Mfg Co	4
Elec V Co	7	117	Magnetic Auto Co	3
Lozier	15	104	Quinn Equipment Motor Co	1
Ricker	3	36	Hagerty	1
Studebaker		29	PR Peckham	1
Woods	1	16	Jack Hauck Co	1
Coupe Gear	1	11	Davy Motor V Co	1
Reamer		12	Canton Elec Co	1
Auto Cart Co		5	Pittsburg Motor V Co	1
American Bicycle Co		1	Trenton Auto Co	1
Comical Truck Co	2			
Coleman	1	3	Fischer	1

Distance between stops

Max hours for wheelchairs & pedestrians

Approx. travel rate/mph

Single Gear drive

Miles	Feet	40 Miles/hour	35 Miles/hour	30 Miles/hour	25 Miles/hour	20 Miles/hour	15 Miles/hour
3 1/4	15840	110	80	78	69	53	40
2 1/2	13200	121	83	83	74	54	40
2	10560	142	90	86	80	60	41
1 1/2	7920	99	99	95	85	68	43
1	5280	123	123	128	90	74	56
1/2	2640				145	119	56
1/4	1320						120
				15 Sec 5 mph 2/15	15 Sec 5 mph 3/15	15 Sec 5 mph 10/15	

Transmission pulling 150 lbs/ton

Braking retardation 30 20 20 15

at 40 miles scheduled speed allowed will be 60 to 65 miles hours, includes 2½ miles hours

maximum speed up to 50 miles hour

Acceleration for the heavy vehicle varies from 75 to 110 lbs

pull hill grades or higher or 210 lbs for short runs

actual for simple cars not figure than 1 can used the friction transmission pull from wide demands

Above figures are for Energy at Motors

June 15 Test -
Lansdens Asphalt road
mean of both ways -
Both Machine Palmer tires

Anderson Wt 2460 -

2nd Speed	12 miles	60	Watts Torque	148.6 miles
3rd "	14	70	"	
4th "	20	86	"	
5th "	24	100	"	

Bailey Wt 2350

2nd Speed	12 miles	62.6	Watts Torque
3rd "	14	80	"
4th "	18	86	

Anderson Model A Run about
Weight body complete no Gallery
1378 lot 40 A 6 - at 20.38 -
813 lbs Total lot 2191 lbs -
$1900. Lead $600 more Edison

478 is long endurance cell
of the Curve -

Can divert $9000 from phone
to Bailey in 3 months for a day

Gene Elec Computer
C B Keese.

199000 bonds + equity in hand
~~32000 at Jersey railway~~ which [illegible]
97 Mind bonds
12500 Mind bonds
132000 sell batteries on hand
437500
[illegible]
425000 required on next page.

Bonds

Evsle King
Mutual Benefit Bldg
Broad & Clinton, Newark

Byrne & McDonnell
776 Broad St
Newark

See Perry in NY some bond man
there -

Mallory May		28 000
June	Battery loss	4 000
"	Sales dept cost	4 000
	Bond int'st batty	1 000
	Lansden	4 000
	Mallory	6 000
	Adv'tg Batty & Lansden	5 000
	Lab	5 000
		20 000
July Mallory		
	Battery Loss	4 000
	Sales dept "	4 000
	Lansden	2 000
	Laboratory	5 000
	Bat Adv'tg & Lansden	5 000
		40 000
	Rudnowsky Schumann Nab	5 000
		45 000
August Mallory		15 000
	Battery Loss	5 000
	" Sales dept	4 000
	Bat & Lansden Adv't	5 000
	Lab	5 000
	Lansden	4 000
		41 000
	Rudnowsky Schumann Nab	5 000

Sept Mallory		15 000
	Battery & Sales loss	9 000
	Adv'tg Bat & Lansden	7 000
	Lab	5 000
	Lansden	3 000
		39 000
Oct Mallory		15 000
	Battery & Sales loss	9 000
	Lab	5 000
	Lansden	2 000
	Coupons 9000	
		46 000
Nov Mallory		10 000
	Lab	5 000
	Lansden	2 000
		17 000
Dec Mallory		
80 M bbls stocked out		
65c cost		50 000
	Lab	5 000 55000
Jany Mallory		10 000
	bond int & bally	14 800
	Lab	5 000 19800
Feby 100 M		65 000
	Lab	5 000 70 000
Mch 40 M		26 000
	Lab	5 000 31 000

10 000	2	4 mm
Wax 12c	174.00	174 00
Cardboard (labelled)	99 25	112.55
Sundries	12 00	12 00
Talent	181 09	181 09
Labor	165 50	165 50
6.3c		6.45c
Jet	45 00	45 00
Pkg + Boxing	51 00	51.00
Advtg	122 75	122 75
Genl Exp	152 00	152 00
	1002 59	1015 89
3.7c	Equals 10.3 Cents	10 19/100 Cents
Net selling price	15.2	Net Selling price 19 cents

24% Records shipped foreign
16% Phones
26% Films

Convers D. Marsh
15 Spruce St
New York

54 Exclusive Victor Jobbers

Records (labelled) Eng Australia
24 H mm 8 1/4

B Gem	4.20	D Standard	8 50
B Standard	7 00	D Forsid (shown with Egypt)	8.55
D Gem	5 00	D Standard	" 10 25
D Trad	6 50	B "	" 8 75

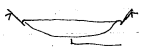
July 6th on hand in bonds
$96 000 - left in bonds July 6 —
64 000 paid Vol taken out this day to pay July bills
32 000 in deposit with Fidelity for Insurance on Works bonds

Mina M Edison

Monhegan — Maine

33
220
66
66
72

128



92 000 bonds
32 000 Insurance
20 000 Mont Lake
10 --- Life Ins
75 000 Mina
7 000 Boroughs
80 000 Letters

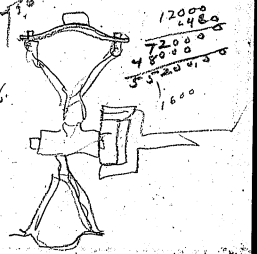
296
128
168
90
78
7

EP Earle

140000

Sat June 25 - Bellwood park

Edw H. Kocher



Notebook, PN-10-05-10

This pocket notebook was used by Edison in 1910 for notes regarding experimental work and other tasks to be performed at the laboratory. Many of the entries pertain to the composition and manufacture of phonograph record blanks and to storage battery electrodes. There are also notes on tungsten lamp filaments, color photography, cement production, and storage battery performance in electric vehicles. Among the employees mentioned in regard to experimental work are Walter N. Archer, William G. Bee, Charles Dally, Ignacy Goldstein, and Walter E. Holland. The book also contains many notations of a non-experimental nature. Included are reminders about music and musicians, notes on possible names for a new large-diameter amberola record, lists of employees, and ideas for promoting Edison's storage battery among owners of electric vehicles in New York and New Jersey. Tabulated data at the end of the book provide details regarding battery production, cement shipments, projected income, battery performance summaries, and the volume of cement necessary for a poured concrete house. The pages are unnumbered. Approximately 115 pages have been used.

176 -

48

52.25
40.5
26125
20900
2116.125

2470 -

12) 2116 (176
12
91
84
76
7

Bachmann to make some concrete with hot water 1 2 + 3 mixt no clay

Try Lac, Toluol Cld + some paraffine, also Spermaceti – all things to get it thinner

Try Chlorhydrate of Ghycerol mixt + Goldstein chems.

~~See if good solvent for Chloro Toluol can be found which is not a solvent for lac – Petit can dip a wire dip out Toluol + Regress – get rid of air. Could make lac much thinner – Xylol OK~~

For disc	Ex	10 and
Apratus wanted for Experiment.		
1 Shaving Mac for finish shaving	X	4
1 Shaving Mac for rough shaving		6
1 Blank moulds for black masters 10" size		5
1 Blank moulds for black master 12" size		5
2 Blank mould plates – small 25"		
Blank mould plates large 125" } 10" size		150
Blank mould plates small 25"		
Blank mould plates large 125 12" size		150
Blank mould Hot + cold plates 10" size		5
Blank Mould Hot + Cold plates 12" size		5
Microscope stand one done		
Revolving parts for plating Tanks		40
Rings + plates for pressing blanks 10"	X	350
Rings + plates for pressing blanks 12"		200
Rings + plates for pressing records 10"	X	350
Rings + plates for pressing records 12"		200
Extracting Machine 10"	X	15
Extracting Machine 12"		15
Edge finishing machine 10"	X	5
Edge finishing machine 12"	5	5
Polishing Machine 10 x 12" size	1	5
Labelling Machine 10 x 12 size	1	5

Superheater & Condenser for Rosin Kettle.	X	10
Loading Machine for blanks 10"	1	5
Loading Machine for blanks 12"		5
Revolving parts for Gold plating 10"	1	5
Revolving parts for Gold plating 12"	1	5

Speak Dyer about having record mfg reports sent him -

Get the batts of 16.8 / 734 B_1 & Have Archer grind 3½ lbs right size and Dodge man make 1 A4 cell.

Archer 3 tubes 734 16.8 / B_1
25 K 1 Li Dup 25 K 2 Li
Dup 28 K 1 Li Dup 18 K 1
Li Dup 18 K 2 Li Dup 18 K 3 Li
Dup 21 K 3 Li Dup 21 K 4 Li
Dup 16 K 2 Li Dup 16 K 3 Li
Dup 16 K 4 Li Dup 16 K 5 Li

Holland see if he can flacken that piece $B_1 O_2$ all way thru - give him a piece of the yellow $B_2 O_2$ see if it works better

Get from Goldstein the numbers of B_1 tubes that has B.C.H in mark in book if haint done so

Adapt new reproducer to our phone

Dyer refuse to guarantee battery cans after 2 months give reasons when we return Ni plates, they pay for solution

Li

Petit - give a 4 mm Mouton -

Belly Bee to tell Hill he has left out fact that we can reduce weight of his vehicles to the extent of the overweight of the lead battery. This will of itself give same strains as before but increase of mileage, lower current & diminish tire wear & starting strains

Morrow - tell the people that is unreliable, clothing worse than anything else. Let him tell the school-boy - Jeffers has been a good sport

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Send from Dodge how long block on hand will last —

Buy Pillsbury — or Formaldehyde HCl + Every organic — including Sulo, food church Etc,

See if Metallic Iron reduces the Bi Nitrite Solution,

L. Ott if you can precipitate Bi from this Solution,

Ask Goldstein if he has made those Mt Ott Coal Combus yet,

Get the Hemp for Pierman

Get No 2 Meyers Lab Book & Stand Eggleston on variable Chamber & hole Recorder Cup,

Correct Shaffels List with that in my book, Have Schaffal give Dyer Copy of daily report he makes me —

Get the 854 1129 - Bi ready for Archer 1129 also drying —

Look at some of Goldstein 8% Bi Green see if can see specs of Bi_2O_3 —

Lead pocket - this powder Tr utility or not?

Silicon Ethyl in alcohol makes Cell lead now inflammable,

Get 4 high Voltage Herbert The "Glitters."

Goldstein make Bi Dioxide Bi_2O_3 (Bi Tri oxide & stannous chloride equivalent proportions dissolved in HCl mixed sol poured in moderately strong KOH result black brown precip is boiled with strong KOH which dissolves stannic leaves the Bi_2O_3 —

This dried at 100° is original block
Crystal powder dip to remove or
[illegible] Emulsion over Gummy like
Tinsdor Schnauer Pop[illegible]
1 xxxviii 45, Schuff [illegible] chem
Pharm - C[illegible] 331 -

Goldstein make uniform form
B. Oxide to mix with
Gram a also to precip
in green

Mix some with Double
B. Nitrite - with green

Dyna not Wrong. Silver Lake
S B Trade dull work for
Emfg Co at Lake -
now only [illegible] 12 miles -

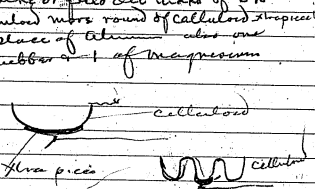
Get detail Cost of Moving
Fire Film to [illegible] -

Get Safe or a drawer if Cos
Drop left Wagers get
Lock Sheet from Dryer -

Walke make a knife spring not
so deep + thinner stock to lighten
cost - also a spring of the
.006 Celluloid spring part 1/8 or more
wide - This will lighten -

Make non flap of glass
Dully blow also

Walke or Fred Oil make of .010
Celluloid more round of celluloid strip pieces
in place of [illegible] also one
of Rubber or 1 of magnesium



Pressure little cough oil - dillo
our show grafts on knife edges
& put smaller grooves inward
on knife lock. That gives good
record.

Pierson - try some wallpaper the computer to get in line on it

Run tests on B. tubes with Dow-Corning in the Electrolyte to measure Dielectric loss the B's to harden the distributions for Carlisle

Listen to Victor 25 tunes played - Goodman

Insulation tape (Cellulose) left to 006 Cellulose & 00 - 0054 to Cellulose see seed of Can get it thinner

Capacitor Wake drawing pot 7/8 3/4 5/8 Recorder somewhat Curtis 9/16 13/32 13/32

Billy Bee - Morrison uses Lead in 2 or 3 trucks at Lamp works -

Ross to make a list of all troubles people had with Cathem in his knowledge so we can guard for them in the guarantee

Dow increasing Cap 6 Alley Co. to 2½ million -

Edison Co Office Cor Elm & Duane St 1

Electric 50 Tunes 42 Downing St New Plymouth

Wolke Wake Magnesium Kingf Spring

Put somebody on finding a solution to plate Tungsten ~~on filament~~ 605

Tungsten fils
Acetone, Ethyl, methyl, Solvent.
fused entry wires cycle with W.

Prove the different Tungsten bronze
that Conduct up to high heat.
between pt. Electrodes in Vacuum
see market, Dally do it.

Wind a small motor on carbon pt
150 volts direct Ct for experts on
Lamps to neuralgia slides
dig on globes

Reverse low rate long time
3 tubes that from long
use gone low capacity
film ~~Etc~~ see if can
prevent ox & tri & dissolve
Fe out by Br or Cl.

Pierman ~~Tr~~ Long
furnished ~~1~~ 1 Ring
1 Rings

Advertise in Bu Ch Clave
NE etc - When you lead Galleys
are worn out use the new Edition
Galley etc -

Mallory send for Bulletin
418 of US Geological Survey
Called Fire Tax a waste of
Structural Material in US
Copy Part P "The total cost of fires
in US in 1907 amounted to
almost one half of the Cost
of new bldgs constructed in
that year
(Copy down to)
5654 were injured." ~~P~~
for the Agriculturists. On black
letters Keep it in every
issue send it to Hager &
have him keep it in his
Stamp Mary Grul Ancenzoo
Mexico Engineer

~~3 Cells 20% B.O throw~~
~~100 on 190 - Big Cells~~
~~A4 60 90 & 120 Bulb~~

~~3 = 15%~~

~~3 12%~~

~~3 10%~~

~~Holland fund cost of~~
~~B.O on one produces~~
~~when Cell is 1/2~~
~~discharge A4~~

Plunch Hale

1 Patent corrugated ring dia flexing material like zn Celluloid - Viscose, paper etc
Knife spring flexed only, placing dome non flex. Center -

2 Patent new Repeater flexing Dia ball spring flex only at fulcrum. Weight tilted

3 Rotating disk cut of sounds see if there is a persistence of sound

2 tubes burns out.

3 Extra shutter could be by hofer. for fulcrum throw off + one Colored light
2) Knife gears together + pictures taken same way

4 plate some tube stock with gold or tube itself - run reg

5 fund Tangled Tantalum wires + add 1/2 gram Each tube, 2 Cells

6 = Make a knife edge recorder for Durand -

7 Make up to date Reg recorder Louder + not wear second

8 See if hot chalk dust can be Caught by Electrolysis -

9 Try ring dia on S Regular

10 Dyer when in Washington see PHD Dr Grimes about Jamison

11 See Johnson get 4 months Credit on his next fall.

12 Scheme Develop a reflex low pressure steam from low press turbine, this could chill air + dust drops -

13 = Want Reg reports of sales profits Expenses all foreign Cos -

14 Get list Elec pleasure trucks. My P. Ohio Iff. Mo Dc Mass + New Eng States -

15 Make Wound metal Can + make A4 - Holding test under worst conditions outside, ie Tinley Ills

Ask Cabart how about Option on Rudolph also if he can get option on Rand prospect for Bi 2c lb royalty

See if Master record Can be dropped in Tribalac - also Try the Chl Tolmol paper with it on Patterson way

See if powdered stuff
that Regan can be
mounted in a smooth
small cylinder

Ask Balbach if they
have Bismuth
Ask Morrow if he
had Bismuth when
in Montana —
Ask him where all
Copper Electrolytic
plants are —
Ask Parke Channing
also ~~speak about~~
Rollo — get him dozen
to Cement works

See Duquesnes get letter from
Jack Morgan — Rollo — also
See J Hay Hammond Rollo —
See Johnson if they could
work Darby mine —

Dyer ~~for up~~ Brewster
photos Harry C's bonds so
Can Exchange them for
Mina Mining —

Holland to discharge from A4
150 amp in hour see voltage —
ditto 30 min ditto 15 min
get heat etc data for a
Potulson battery —
Have it 80 deg not less
Save this cell for plants
take it out of prod
product

Ask Regel new Bi ores

Ask Dyer how long a lease
10 5th ave & do ~~they~~ pay taxes

Archer –

2 tubes 15% B_2O mix 100 on 190

21K 2 di containing following

2 grms each cell –

Br K Br Na	Sulphate Na
Cl K Cl Na	Silicate Na
Al dis in	Borate Na
Zn "	Phos Na
Nitrate K	Phos K
Nitrate Na	Arsenate K
BaOH	" Na
SrOH	Nitrobenzoate K
CaOH	" Na
Sulphate K	Chromate K
Molybdate K	" Na
" Na	
Manganate K	Tellurate K dilute
" Na	Selenate K dilute
Carbonate Na	Tartrate K – Na
" K	Oxalate K
Fluoride K	Citrate K – Na
" Na	Iodate K
Iodide K	Zirconate K Na
" Na	

Goldstein, precip 1/2 Ferric 1/2 Nickel

160	1/2 BaO 1/2 MgOH
140	1/2 SrO "
64	1/2 CuO "
160	1/2 Mn ic "
224	1/2 Co "
	1/2 Cr "
	1/2 Ce ic "
	1/2 Ur ic "
	1/2 Bi "

Wanted (Calc 1.10)

" "

Goldstein precip Fe_2O_3 & equals

at Red heat, [illegible] Gill

The form [illegible] Sol. Chloride

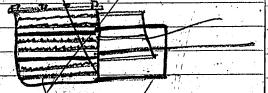
[illegible] from [illegible] of

[illegible] $Sulphate\ Fe_2O_3$; [illegible]

[illegible] degree, [illegible]

precip it when got it

Eggleston or
Have John Oldsah out/ow
from Richmond out 2 trays
then remove gas & Condense H_2O
& let H go into 2 more trays
& so on to build 1000 lbs
thus



3 sections 2 trays each 50 lbs
on sec 300 lbs total Frgot.
Can probably Cast channels so
only 1 H + 1 working pipe
necessary

Look up Oldsah's numbers
& see good loading wt &
where all of N_2O_5 saved
If good RA Comes Land
Oldsah Repeat it

ask Oldsah what he found
best way dry $NaOH_2$

Dolly take dust $NaOH_2$ &
use different amounts Water &
press it in small round cake
same as chalk 180 lbs
Crush & make 2 tubes —

Find one of Oldsah's
very light $NaOH_2$ &
see if Dolly can condense
it by pressure with machine
in it also little KOH in
it — Had out find that
small steel dia. we
had bottles to get
great pressure —
Try Ferric ox sing for RA.

Dyn Smith is slow

Make some use to collect
deep 4 1/2 4 3 3/4
3 1/2 3 1/4 3 2 3/4 etc

When I see Vail speak
about Meadowcroft
Letter in his grind —

Poland holes in film
off problem that is should
be forced use Elec Contact
to work magnet behind
screen to let off platine
drop and then to make more
of Ernst's Control shutter
to color my particular
problem or problems

John Ott design of grid
for 3/16 tube for 5 or 6 plates
in an A 4 - Manager 70 to
increase discharge rate

also a big grid to mounted in tubes
— 1/16 sheet iron or even 1/32 cell
to be 3x2 5/4 deep —

See if Goldstein got the Nickel
with Co Off in the dry yet

Get the Acclo Autoscope diagrams

Pierson try glass Center

See if Pettit make the disp in Tetrabine

Correct to date Schufele list

Listen to 25 tunes over Victor
Record

Get Victor machine + some
Marconi Records also
Vocal to be put up —
Pierson room —
also an Ambrola Machine
all one to test Pierson Thermo
+ make better record

Holland to find out how much
lower 25K ½ Li or 1 Li is in
Resistance than 21K –

Select a good green for
Regwork + use 40 lbs for
Bi_2O Cells –

2 tubes 10% Bi_2O +
1% $CoOH$, thru 100 on 190

Drop 2% $CoOH$
Drop 4% $CoOH$
Drop 6% $CoOH$,

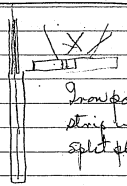
22 tubes 10% Bi_2O
1% Cu
Drop 2%
Drop 4%
Drop 6%

3 tubes using large flake
graphite, 7 V Mill and drop
screen out rise unloaded flake thy
Drop green thru flake graphite
dump Drop with 10% Bi_2O + 20%

Drop but dump green
then Tamp, then flake then
tamp –

Drop using 10% Bi_2O –
Drop " 20% Bi_2O

May 10 1910



John Ott –

Iron pocket with perforated
strip in Center
split plunges or wires

If have not done so
Make 2 5 gm Cakes flat pockets
20% Bi_2O_3 dittto tubes
Drop 25% dittto tubes –
Use Bi_2O_3 dried fine powdered
hydrate of Bi to mixed with
Fe – Drop with Fe having
no Hg lookout for Chg Curves

flat pockets Fe mix 10% Cobalt Red by Hg from Sulphate.
Dup 15
Dup 20
or better have Pell make the mix
in Lab 95 Fe 5 Co 90 Fe 10 Co
85 Fe 15 Co 80 Fe 20 Co —
J.
Get some flat pockets plated
with Silver at Shore work
load with Fe mix no Hg
drill with Hg — also no Hg + 10%
Bismuth hydroxide or also with Hg

Fe flat plts Hg — 10% Cd 15% Cd
20% Cd dip with Hg J.

Dup above 10 Cerium Cerric hydroxide 15% Cerium
20% Cerium.

Dup 10 15 + 20 Sb Oxide

Dup 10 15 + 20, Litharge.

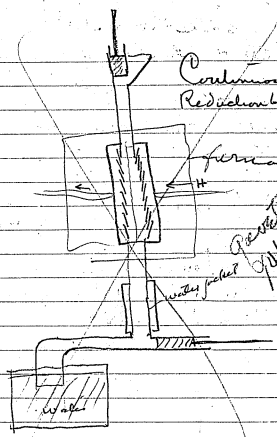
Dup " Ferric hydroxide
" " Mercuric hydroxide

Reg mix with 5 10 15 25% of
Red Ferric from RA —

Ask Murray if I can have
Copy of Contract for the
Dubbelaar Gulcoy 9 Sons —
or at least that part covering
Coporanty granulites & powder

Telegraph Moyer to have that
data over here Friday
Morning if impossible
then ~~[illegible]~~ Monday
would do — points coming
over Friday

Goldstein Feal / Reg Fe
Mix to determine amount
Metallic Fe + Oxide —
also Hg —



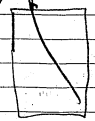
Try Experiment grinding up Mn SO4 7 H2O & Na OH solid, letting cool & then dissolving - just nearly dissolves as water except abt. 1% makes nearly — Sol'n

General letter to all the Prescott Light & Gas power Cos

Ask Oscar Wright mean if fuel value of gas decreased light =

Talk Meyers for stuff 1st find out what Lamb Commy

Holland Crest for gas as gas indicates to Stand coffee Cadillay Charges



Write to George Coast SP Bat Bldg

See Weber abt getting down phone Rockwell & buying only

Enough stocks to keep you also see what shop orders now on shop —

Get good Dictaphone — dictate letters — from choice — or Miss Hughes former girl —

See if Ballard put there 2 cells changed of 2 discharge A for accuracy for a long test — Possibly new cells left in 3 Bakery bldg or not used for long time might deteriorate bad —

See if Pierson did strengthen the Coulee of last recorder —

Get the big phonograph recorder so can fit new wax plate to it to take records or have good phono make records —
Fit up air out & Regular for big machine —

Have Martini Come up & make dog records —

When Dyer returns go over British patent situation specially in Re Bismuth patent, How about we demand because ~~[illegible]~~ contract not there,

Look up in Morrow's Report & Correct 1 Ton horse + Electric Costs — don't give mileage

Get explanation of upkeep Cost on Utah last of Crucks in this book —

Take up with Lansden Adv Man the Map + route scheme of advertising —

Wife get a Church woman Dinner —

Subscribe for the Bankers Magazine

Gain price arrow down to
Lamoden - ~~see~~ See Lobelia pt.
brush

See Billy Bee just what
breaks on damage he has
received

Goldstein make 1 lb
Bitydrix - Dolly
press 02 - hand
Gallagher - Mary
arolier Church
Thru 100 on 190

Long Island - Billy Cor road
Chas. Coulfield to
occupy 100 wheelbrooms
day will leg fault up
Pt Pretty

Lambies House
Cor Valley road & Washington
ave -

Fireman Little Phone graft to
on Ring dia -

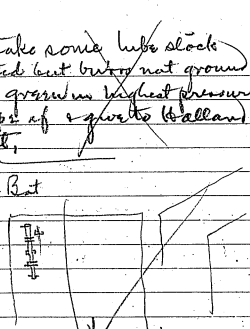
Buchman - put up a
slender pole showing
length of the house at show

Buchman - Stronger lights
inside house model -
Those now in poor -

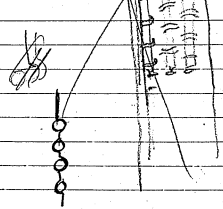
See Inverdale about Cars
Thru tunnel direct to Orange
Can go up 16% grade at Hoboken
to get to D.L.&W. R.R. - Can
land any where in Newark
Agnage Light,

Dally take some lube stock perforated but burr not ground & press grooves highest pressure & drops of ~~[illegible]~~ to test,

Slalom Bat



Bat's closed in



See Harlan Chipple —

perforated strip, ~~[illegible]~~ press in only grooves No O - Reduce at high temp in H - to weaken at stick to be obvious - then soak Conc Nr salt + H2O till saturated with Nr OH - probably can mix somewhat dilutable with the No O to weaken more sponge - & OH Nr plated strips to bonded - also use grooved 1/32 of full grooves with No O under great pressure & reduce - & fill with Nr OH or act on Nr with KOH + bypass to make it active -

15252515 — FOOD
005
filled No Sponge

See Mr Adoo

See Simpson - follow up big Musselum Recorder etc

Schaffel Copper at Best in Chap

Bushnell take photo
12 X 12 form now up
for show —
Lansdew Advt go in
Jnl of Commerce & Comml
Bulletin —

60 1/2 lb
40

Wales - Erie 1333/hoc
60 new ones required each year 5/ amortize
Double track by RR Double Trolley 11000 V
11 10300 wide - single track 14400 u
Estimated cost 218 per annum up keep per
track per mile

only
Old Elec repairs loco .39 / car mile
New Elec .26 car mile

average run of a loco 80 miles
Coal cost 11% of operating expense

average passenger train 515 tons
Erie Engine average wt 60 tons
on drawbar 35 tons
av wt pass train 30 tons light
probably 24 tons average

Including Energy for heating cars
light 33 watt hour per ton mile
at 30 mile hour 26 at 40 28 watt
hour ton mile all above at
Bros bad 17 at trolley 30 miles
20 watt hour ton mile at 40.
others say 60 per ton mile

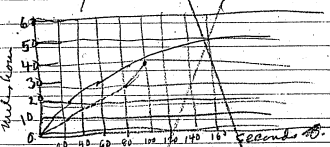
20 miles an hour train weight 300 ton
accel 0.5 mile per hour per second
rate of braking 1.25 Coasting 40 sec
time of stop 30 sec
[illegible] heating & motor —
20 100
30 miles hour 150 KWH for train
40 200 "
50 250
a maximum drop of 10% on a trolley & track of a single phase system will often correspond to a 25 @ 30% drop in the polyphase system

Efficiency on Interurban Union Traction Co — 56% from bus bar to motor on car motor & gear loss 25% — 42% net to track

acceleration very little importance on Interurban Traffic
stops are so infrequent averaging 1 in 2 miles

above data Stillwell's paper
Pt I XXVI Elec Engr

Long Island RR — Steam train
average time of stop
0.49 — average speed between stops. 26 miles per hour for 3 different trains
Run 23 miles — schedule time 56 mins average speed 39.9 highest track speed 52 miles. Grade level
Long Island City to Valley Stream via Far Rockaway



Woodville Steam train L&RR
See p 716 Vol XXIII Elec Engr
above for 3 car train Total Wt 276 ton
13 Kw per ton train friction at 40 @ 45 miles hour

L&R limit train acceleration to 1 mile per hour per second

Present Trolley poor neglect
limited to 2 speeds
full series or full multiple
on three 2 speeds can never
meet all the conditions
Motors must always be geared
to meet max speed, otherwise
it very inefficient for slow speeds
or wherever many stops must
all kinds devices tried and
fail + if geared 20 miles how
then on accelerating [illegible] 25%
More power than geared to
16 miles + motors may be
easily overloaded or burned
out.
unless 2 motors if 4 used
it can be repaired & remedied
~~but~~ throw 4 motors series but
Complicate & much
seldom used
Violent fluctuations all
power seldom necessitates
Stronger bolleries

Using use of motors to get increased
rotation if they were geared lower
& cones peed at or [illegible] if was
sure they wd have muff especially
if soft or manganese cohesion
used - Disk Wire trouble
seems to be slip on acceleration

Our and make most of
Kerby movement are
Editorial page Times [illegible]

Fwa - use disk hard
Rubber tonty use 1/16 inch
copy

Dodge about uneven tubes
in plates 0000

Dyer Yes Breck California film
Spol yours dike Coalbos
Howdbt it

Pub Service –
Telpm Mr Young
P. S. Young Comptroller,
Room 912 Prudential

Sir Dyer of Court Insure for
50 was to protect bonds out
+ thus got hold of 30 Bonds
up in Hartley –

Dodge Rend/ale the
Ni he can to Chamwks
to be used up –

Alt Beach is the prospects
building – of Wales kept up
to mark – if it gets
a long charge every 2 month
or had any long chgs –

John Cell Better go ahead
on that tube 1/8 dia made –
So can increase during time –

Holland is when gets B. Cell
734 16 18 B. built up try
heavy during racing –

High speed lost track
acceleration Torque 120 160 per Tru
Brakes " 120 "
Duration of stop 15 sec
See Armaling Engs
XXII Ele Engr p 92 Crowe

Big Crayon Solvent out
Opera Cabinet for
Blackbs windows

Write Wilson Bros
208 + 209 Brooks Arcade
Salt Lake City —
Deep Creek Mines Bismuth —
What would fat cost, also if fuel or wood there, is there a road
would he lease part on royalty basis

Run down to Logsdens see it

When Dyer Smith gets
ring - patent (new) ask him if he
claims on other part the
arch —

Make Reg replace 1" dia
just like recorder but ½" hole
etc right dia

Fred Ott has works
on air regular

Set 5 Recdr levers at angles
angle until it doesn't
show much wear on
Monday see how long

Ott put in 3 or 4 def
Sacrifice Mg Crump Electrode
at once Cong —
Try mix of 25% Mg ot 75 Mn O
by precipitate Co Cogation
by mixing dials 33⅓% wg
50% Mg T desulfate Mg out
by weight —
plates ZnO. Bills Organic Carbon
Mg Salt - 1 quite

13 plate Exide wt 1804 lbs 44 cells
14112 watts at 168 watts ton
mile, it would pull itself
156 miles 134 watt input Ton mile
or 20904 watts input 75% effy

A4 weight 945 lbs 14112 watts at 168 amp
70 cells at 100 watts ton mile pulls
itself 300 miles input
at 60% eff or 25% input
24039 gross watts input per
ton mile,

Try Iron flake for Dolly
Prop up the Dolly cylinder
for Expts on flake making.

Send SB Catalogue to all the big
old line Carriage Builders -
Barleys Catalogue Jensen
Heuber, & two results. & a letter
saying that should investigate.

Anderson for NY or Hopkins
for NY get a table showing get
that of Electric Vehicles
6 yrs & vent all, proceeded
with Literature & make measurement
& get data of all of them.

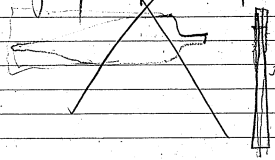
Get all gas mobiles & send
Catalogues & price lists

Buying up Electrics for
up & sell them -

figure out Table Vehicle
Efficiency

Take up Mullany & Beach
Controversy 10% Beach 10%
Mullany =

~~Stop~~ See Dodge about anodes
Changing shape to stop low



Dym & Walter Miller about
ultraducing new recorder
on ~~[illegible]~~ Cinquet records
& getting a remedy for
blocks at Tunnel Home
room - about contract
with Record man - no repairs
Have Supply on hand -

See Bacs. of proxy Central
Electrification of Central or
Reading or PRR
Mellin for electrification of
Boston
March see dif PR president
& notify them what
probabilities are
See Grade through Tech.
Inv. about Electrification
also if they would Cooperate
with us.

In Electrifying figure in
Cost of operation the
interest charges at
4 1/4%

Rebuild the 2 small
Baker Electrics

Write Hedman to get
2 Heavy of Bacs.
Want to ~~[illegible]~~ the buds
say every Organ power shows
have Bac 25% less drops –

Write P.B. Shaw & tell
him abt Equipment

No lighting provided for
SB Loco

Advertise in Electric RR
Jnl –

Present Substation for 500
KW Cost with Land
$22000 or $44 per KW
~~3 mon ago~~. without depre (was) chgs
$28.62 year wages 3 men/hr.
Labor cost 2820. $450 repairs
$400 supplies. Power only
30% of Capacity whereas in
SB Loco it comes 80%

Dodge about recognizing among the C.P.
also why not have Schrot Lake make Cu SO4 from what we have.

When down in the mouth think of Jonah he came out all right.

Put a ball in new 7/8 recorder & try it as a regular flotation

Keep L. Ott at making Wooled sponges. Perhaps can feed as powder & it will dissolve down on grass no Lubr. as a flake at 60 very cheap.

Send from Dyer Smith off & have little cups on end tube patented - dotts turned up edges of grids. Bars ground off. W.A. of plunger patent rotation distributor - not the rest. Pulsed. Tries all the ways of adding lithea.

Combine B. & L. in Pneudes method recuperation cap of iron by 1st dissolved fuller & then long weak charge.

How about selling E.P. works but what about selling my bonds thru a local Newark broker.

See Dyer & Mr Chapin first report among in Nat'l about Chas make it 1/2 step? Mr Pulles Can use this to advertise balloon.

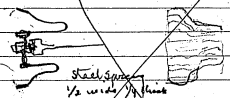
at intermediate points where
Trains made up Cross tracks
with 4 truck Travel Cars to make
up for trains made Similar by GB & Co

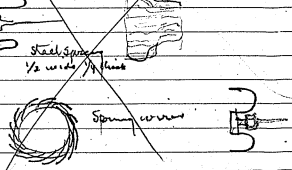
Erie 4 car trains Edwards & goes on boat
& travel but won't Enter on account of
gate avs elev - & goes to destination
Similar [illegible]

Worst weather 6 to on rails
1/10th of weight 1/5 in Summer
on day rail 1/7th ordinary
Conclusion.

Wards Refrigerator cars
for patterns 1 etc for 60 V
Motors 1 & 2 low
wagon find out
from Lenoxhead

Truck wheel





Where Anderson Wheels
Cars made wheels
7 persons on it —

ask Burke if the cars
letters have a good
Electrical Mechanician
for 3 days —

Ask Churchward what
he charges per day

figure out for Anderson that
Hicks vehicle with the Kemper
Head battery he used in Ok
then he can take it out & add
E battery to make the same
total cost & get very much
more mileage —

Dallas Form up on #4
then ~~[illegible]~~ Run endurance
& allow plates to water
until it gets 3 inches below
the top of the plates
but test every 25 runs
then fill & run again
until 3" below & after
certain number of runs test
its capacity by new sol
& several runs —

Ethan Steel Co suggestion
for 5 Ton truck wounded
E Batt see Joe & Morgan

for City use 20 Highdon A8½
#16 load of 320. give normal
decding of 30 & 1/2 the
Mileage
Could make 16 plates
use 10 cells.

3rd person who has seen
Halbury Lansden Tony & who
very delighted with Battery
but not satisfied with
truck —

See Bergman & find if he knows
good man for Lansden

Ask Martin if he knows
good Elec RR Conductor Eng
not too high priced in mind
who are the high lights of Elec RR

Get Work Report & Finder on
Chart Curve up to date

ask Ford Dill see how Graphophone
selling now —

Dress Pierman make record
+ use old reg reader —
get lot of recorders together
steel on old reg plans +
then go over + teach Walker
Miller —

Get new Weber Piano
down —

get 1 3/4 1 1/2 1 1/4 thousandth
reed & cadmium dia clock
for Pierman —

Write Van Horne and for 2
best works on Elec RR —

Somebody put dig in
Elec Engrg Society Journal
items on Elec RR

get Hedley & Co. Catalogue on
printed literature for Electric
Seat — can get list of boats
sold last 8 yrs by Elec boat
Co from manager —

Fix Durand a recorder — knife
edges send for Biz Meadows
& Edison test it to get
deviation — make reader more
sensitive by angling ball end
of lever & see how it wears

Get from McClaveny rates
for media column in Times
Tribune Sun Herald
American World —
Phila Boston Washington
Cleveland Indianapolis
Chicago Denver papers
also Magazines —
for reference —

See Holland see if we can't use short cams for some tests —

Get data from Holland that I gave him —

Figure out Vehicle battery economy life —

Holland after Greyhound has run 20 000 miles have them man testify you & you go over & give long chart & get actual capacity on long & normal charge for A.D.T. & ditto & thereafter every 10 000 miles —

Ask Dym amount of Corporation tax all Cos —

Mfrs test dead battery Vehicle

speed 9.5 miles hour level, 28 amperes
4% grade 52 amp speed 4 miles hour
4½% grade 56 amps " 3 "
Solid tires, wt 3750 lbs passengers etc
total 4200 lbs. — 218 watts per car mile — slight grade — running both ways average 92.8 watts per ton mile.
Dead level draw bar pull 39.26 lbs ton

Look up see how that Fe that was reduced by H worked Have Ralph Reduce 5 plates after discharge from ahead battery E 18 & reassemble in a tube cell or put ~~single~~ against tube plate in other cell —

Tribune, 6" Double Column highest $83 once
Herald Double that of Tribune $166
Times $67
Sun $74
NY Commercial, daily, bids. $67 -

Boston Herald also Globe $100
Phila Record $83
Inquirer - $83
American - $74

Washington Star, abs. Post $40

Buffalo, Courier + Exp 50.
" News 67

Cleveland, Plaindealer 50
" Press 54

Chicago Inter-ocean 100
Tribune $117
" News 134

St Louis - Post Dispatch - $83
Republic - $83

Cincinnati, Council $47
Inquirer - $67 -

June July Aug Sept Oct Nov Dec
receipts 285 odd for month
for all the Co exclusive work
done for Chem & Lab. & rec'd by
95 odd Adv — for month
Income w/out ads only would
take care of that

Have not yet been
raised on phones

Dollar short ch a call
for 1 min then charge reg
want to see how short ch
on SB Lord varies act,

Bachman
Keller Copper wanted
Rare wash off

Dyer wants progress with
Speaking Tubes

Sec Bacon Ready RR - Yokum - Reid of RG
McCrea PRR - Southern RR Atlantic
Coast line, Atlantic & Pac, Cunningham pipe
GTR - Illinois Cent Union Pac -
Dyer - How about Lowndes
Coreland

Actual Cost Light Delivery Wagon
from Mr Stern (Flynn)
2 Horse load 64.00 Cents
Internal, Horse wagon etc 40.15
Stable rent for 2 horses 18.75
do Wagon 9.39
Allendum 2 horses 27.32
Showing " 13.20
Drover 171.42
Boy 114.25
makes 3 deliveries 428.54 Cents
daily 800 lbs each

Dally make Copper flakes
by plating Cu then Fe then Cu
also on Ent Fe out by acid
H_2SO_4 = Cut up & make back
cell.

Make some Ni Cobalt flake
Mixed anodes Nickelen anodes
75 Ni 25 Co 90 Ni 10 Co.

plate Ni then Fe then Ni, then dec
Fe out by local action in acid

Letts Ni then Zn then Ni &
dec Zn by acid - Zn doesn't
reduce Ni -

Adolz
Would any sane man
Take out an Electric Motor
driving a printing press
for Molasses & Sulphuric
& by cylinder gasolene
Engine Would any
Street Car Co take out
the sample Slea & Sulphuric

the Gasolene Engine even if the Expensive Battery unwanted & Maintenance could be saved

Send up to Franklin & see what is referring to gross 20 miles —

See Hunt & Co Industrial Loco & Billing they build Consecutive Of number

See Billy Bee & Cons Truck to my Cost to t —

Ask R Abraquest dead cost of old green aloes & of of Cells in t —

Ask if he has used up all old mott in stationary Cells E18 27 etc also try Expert his Wash water from reclaiming Tz on old plates to recover nickel —

Dodge Recent use was old rubber from reclaimed E18 by special design on cutting fresh aloes —

Ra & YM Cutt down to 100 day until further notice —

Patent water tube in Boiler & Turbine —

Figure out good food for Disc

Harry Weller pay Wm the bond coupon interest due on the 1000 000

Bethlehem Steel Co or pocket scrap at 10c per lb for the nickel —

See Dodge about talking old E 18 apart to use mix ~~+ get all cues for the labor~~

Put up 3 more Irons with No Hg but silver plated Cups —

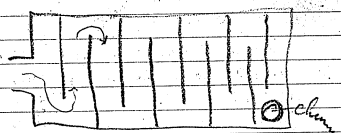
Plate Cups with gold — lay in strips in Cup so

Fe on shrinking will push on the strips & prevent control also now screw full size of Cup made of 10/mm wire ~~[illegible]~~ also one nickel plated —

plate tube stock with gold & make up by hand 2 tubes — find old t —

Jura — The Rism Tesn 10 drops in h 21 + is ok — Can I give me some to Export work

Dresden



Schupel about diamond holder 1/8

Andersson — supped up — Bueno apps, & full S a + General a Cuba Tro —

Dyer Let us get up a picture where several voices are given & introduce the new Trap Tube —

Make 2 pockets ignited today from muffle —
Prior Goldstein ignite Nitrate from
Dry Scale Oxide again thus
190 & then ground finer.
Thus scales from Amount
Iron wire, Ignited Sulphide
Iron — Ignite good load

Ask Walland best paint on
Erie building to prolongation 20
min & what is economy
in Watts & Amp —

Dully make Green flake
using Zinc to Exit out.

Goldstein — ask which number
by part B. high in metals
Mod, also for tried
powdered 190 B.D —

fet a cell tight rings tight pop
valve when cell change to rate
of popping be ranged on cell by
sound or indicator to indicate
or work related to effect

See B Beck has record of
salesmanship of Ilway makes
good —

Change life insurance in
Mutual & Mutual to
Mina a old the shedules

Walland Jelly Off rig up clock
work to change 80 Amp for 1/2
hour. A4 — discharge normal. Holes of 0.04
by clockwork for Endurance
test. When battery 3/4 fully
work might a day

Experiment on soft felt hammers to stop bad notes on piano & the thump sound buy some hammer felt from Lauder & put fred off on the notes that are bad —

Gwen — to furnish Pettit with some of his Reproducers to press.

Pettit to pass out on metal Salve box & make sketch & try —

See Parke Channing Rolls Low grade & G. H. Hammond —

Cass [illegible] cents worked

Murray — asked Jed he get wire over to sell about [illegible]

Dyer fund inst fold-age bond dealers in Newark —

~~Dyer to get statement of our Advertising — See Jim Dodds some over to Bradley —~~

Dyer to go more sharply into reducing Expenses in office forces & devel Regal & Self Recording & Talent —

Fred off make 003 & 005 004

Cockcroft dis lot of them for premium 10 Reproducers —

Pierman play scale & find out bad notes in Piano: play with cents on both pianos same tune to see if bad notes are in piano or in Reproducer or funnel —

Clark Weber if we are buying any from Dayton now from Engl. now

fund of Sprague was returned
letters from Martin who are
the actors RR Engineers now
Write Brown, arrived tell him
Chamberlin of Cell making
for RR + send Catalogue

See McCrea, Baer, Reid of
R.I. RR — + Walton letter from
Jack Morgan —
Also Lehigh Valley President
for Branch line —

Our sources of information should
be good from some jobs why
not find out how Mr Victor
Stock is, + how about results
making their last over —
We should get more information
when it is so easy —

Dyer what's Geen done on
playing off travellers —

Take train out E 18 ground
up + make test for packets
see of Ch —

Electric Bergman about
Geo Ehrenst, see him myself —
his son also —
Can substitute Lead for E
by changing box
Can make his own ct
got 26 — Hanschlicher
Electric Machine law —
at Treasury 93rd St + 3rd ave

See Barrett Adams —
Billy Bee found exit freight
Wedles Tokyo —
American Exp — Tokyo himself
president. Same Tokyo knew
in Detroit

See Mena + Newman
and in plyes Boyle

Bridge Susquehanna RR problem
Cars required daily —
Worst grade 135 ft mile —
at terminal end —
Size rail - 80 on Section for Elec 20.
Coal 6000 Tons 120 Cars day
Trans 25 load 20 Cars — Except grades Mun 6 cars,
2nd Sec 132 ft mile grade,
20 miles,

3rd Sec 20 miles 148 —

Branch 133 ft grade
Boat 15 min —
Another branch that will abandon
Locos 169 000 on drawers

Employ 44 to 50 m —

Buffalo & Susquehanna RR
H I Miller Receiver
982 Ellicott Sq.

Buffalo 1/2 week at R&RR
115 Broadway NY

North, Mackenzie + Mann
also Boyle of GTR &
Shaughnessy of CPR abt new
Loco

2 Cell 354 —
21K 2 Li 2 NaOH
Dup 19K 2 Li 2 NaOH
Dup 18K 2 Li 2 NaOH

Try Dup 19K 2 Li 2 KI + 2 NaOH
see if NaOH neutralizes the I

See the Gold and silver Ferrocyanides
which are

John Orth marked wings for 1/8 tube
see Weber abt my [illegible] aluminate bath.

Ask RA send up 1/2 lb of
ignited sulphate for test plate.

8.54 — 1 gm Aluminum - 2 gms
phos Soda - Each cell
2 K 2 Li —

Dup 1 al 2 gm K phos.
Dup 1 al 1 gm CaOH
Dup 1 al 1 gm BaOH.
Dup 1 al. 1 gm SrOH.
Dup 1 al 1 gm ZnOH
Dup 1 al 1 gm MgOH
Dup 1 al 1 Iodide Na
Dup 1 al 2 Borate K
Dup 1 al 2 Borate Na
Dup 1 al 2 gm Chloride Sodium
Dup 1 al 2 " Chloride K
Dup 1 al 2 " Na
Dup 1 al 2 Acetate K
Dup + al 2 " Na
Dup 1 al 1 Ammonia
Dup 1 al + 2 of a double set of K + NH4
Dup 1 al " " Na + NH4
Dup 1 al 1 gm SbOH.
Dup 1 al.

do compl for yesterday

Take long run low tube wash free KOH, soak in
$BiCl_3$ NH_4Cl 1/2 strength, put in KOH, wash well.
+ Run 2 K 2 Li

Ask Holland if he [illegible] 22 gms of KOH
should be used in removing liquid —

See Buchman if we could get 5 HP single cyl gasoline
engine + big clutch run into by accident
between Tonnesen spot + [illegible] Road. The Bixby land
that had no values —

Holland to run a Curve on reduction
of the gas column in a Cell under
Condition of production on short + on
long days —

Looking Curve that has small
quantity Rubidium in —

ask Dyer what exchange arrangement have we in England Germany & Amsterdam —

Sherman monthly record 1st order, 3/4 of amount to G.
followed by final order
3 week after,

Goldstein make NiOH.
& when boiled down ready
to dry pass CO_2 thru it
to Carbonate all the NaOH

Grind up $NiSO_4$ + NaOH just
moistened to mush & dry
+ bake out, Likewise make
a preliminary test,

Find out exactly how new
Islands perfect plants looks
getting on — also what
he done about Gilt drawer
disk

Bachman thinks 3½ ton load
10 weeks showers in 3 miles hour
at least,

Wash out the Euby mix - find
out the No thinner it was
900 something - separate flakes
& Load & Light,

Look at Jw Resins —

Send Bergman 2 Sparkling
Catalogue & guarantee
+ Reg Trade guarantee

Find out for Sprague size &
Cost of 5 amps Bathing at
NYC 5 salon —

as Velox has no Exclip prop
think decision loaded up
& trying get rid of them
& not our where they are
Days —

Wheel Cement road 1 Rev 54 500
abt 60 day –
gorge 1800 June 4th –

Dodge – when not rig up
+ wash all gas lines hydrate
15% to 18 Comes back on Stream
+ 2 or 3% on Cooling

get draw bar pull on Waverly

Holland – Experiments with KOH NaOH.
KOH, see if a mix cant be
got that has lower resistance
also not affected by Cold
so much diff heat.

John Narrow up the slide
that feeds the flakes.

Have Dodge Cut some flakes
50% smaller than – see if we
have some

Holland try 75 amps 2 hours
dooding rate on A4 and
then machine 1 hour on
A-16.

Try the Boron for points,
Wash and bake Boron Walter Miller
gas room

Wind 1/16 spool perforated ribbon
cut at least 1 section & force on maps
to hold, fill additional flakes,
smaller hole block to test, also
with flake 20/100 or less

Jas Ricalton
Valley St
19 Maplewood

See Dyer about Ricalton

5.5.

Names for Grand Aeolola

7½" Polyodion

Polyodia, any conjunction or combination of sound, either made up of discordant unusicons or in acatons

Polytone, Everyton.

Polyphone - all kinds of sound

Consons, Harmonons, Consonant
Consonola

Dulcementé, sweetness, softness of Tone
Dulcementola

Dulci soft, sweet

Dulciphone - Dulcino, ola

Euphony - Harmonous well sounding
Euphonola -

STORAGE

	A4 Equivalent On Hand	orders on hand	Shipments				
May 19	12506	6261	214				
20	12538	6183	221				
	12562	6181	90			60	
24	12351	5883	451				
27th	12070	5795	424			20	
28	12449	5795	none				
Jun 4	11286						
10th	10729						
14	10158	5388	3179				
	10359	7269	3358				
Jun 22	10308	7268	3714				
Jun 27	10031	6788	4346	167 Days	26 days		
July 1	8367	5746	1742				
8	8147	4411	2442				

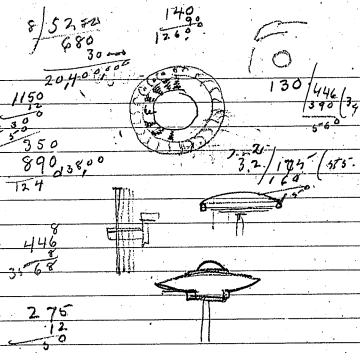
Workbook sheets plotted on Curve

New orders

none

Think will have to start up Aug 1 on 250 day & increase to 500 rapidly as possible —

See if I have told Dyn Smith about Tribune & Palm beach



Converse D. Marsh
15 Spruce St
N.Y.

Advertising

Office & Genl -

	Men	Pay	Rate
Legal	14	446.54	3180
Advertising	84	4.15	458
accounting	22	543.50	2470
Billing	18	249.	1383
Transcribing	11	114.50	1050
Bates	3	71	2360
Miscellaneous No 1	10	169.50	1690
Order dept	15	199.50	1326
Pay Auditing	7	94	1343
Purchasing	10	206	2060
Traffic	5	104	2100
Production	18	331	1840
Shipping dept	6	93	1550
Pay roll	9	146	1622
Credit + Salesmen Dept	10	340.50	3450
Miscellaneous General -	17	320	1900
Paid by check Noth.	21	574.17	2733
" Mfg	5	115	2300
" Big	6	129	2150
Bronx + 21st St	60	1617.60	2695
43rd Studio	8	226	2825
Recording Dept	17	557	3276
		7064.81	
	576		

Rate Hour Dept out		
	Wt. Waverly	3 on Load 1580 lbs
	45 cells — A4	67 units
	Bxly 2157 dept	3 on Load
	40 A6 cells — 22 amp	

Bismuth
Near Dodaville Esmeralda Co Nevada vein
opened 900 ft 20" to 4 ft wide, Sulphide
Bismuth 14% metallic
Near Newfoundland Boxelder Co Utah
High grade Bi ores occur in association
with Copper ores.
Imported Bi Valued per lb in 1902 1.11
903 1.59 - 1904 1.82

1 100 Nickel grids with
lugs or everything complete
all labor & material —
but without Nitro or flake
Costs 24 dollars per 100
grids —

May 10 1920

Iron mix

Material	·16327	Men		
Labor	·05917	Iron Sulfate	6	
Laboratory	·00374	Red Iron	4	
Water	·00207	Fe(OH)3	6	
Coal	·02025	Dope	1	
Genl repairs	·0346	Mixing	1	
Power	·0238	Foreman	1	
General Exp	·0162			
	·3246		19	
Hard Coal Generation	·0170			
	·3076			

Nickel Sulphate

Material	·0366	Nickel Hydrate		
Labor	·00134	Material	24196	Ni.50 5 men
Water	·00003	Labor	·0228	
Coal	·00042	Lab	·0062	Ni.04 5 men
Laboratory	·00057	Water	·0024	
Power	·00009	Coal	·0364	
Genl Exp	·0044	Genl repairs	·0134	
	·0435	Genl Exp	·029	
		Exp Power	·0026	
			·35510	

Anodes

Material	·2727	4 men
Labor	·0096	
Genl Repairs	·0300	
Genl Exp	·0178	
Power	·0094	
	·3365	

Potash	Solutions	
21%	·01723	
33%	·02498	
Hypo	·01476	
Distilled Water	8.9768	Per 1000 gal.

Selling Price

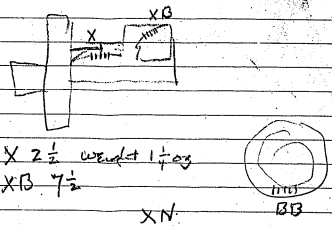
Nickel (Hy)	·50 5/8 c lb	
Iron mix	·36	
$NiSO_4$ 1 to 1 mix	·068	
Anodes	·34 1/4	
21% Kott	0.23 3/4	
33% "	04 3/4	
Hypo 1 to 1 mix	03	
1000 gal Distilled Water	0.1 per gal	

Substation storage battery
22000 Ap 1 hour 135 Volts
$60. Kilowatt hour
Makes 625 discharge then
scrapped, - these discharge may not
take place for years

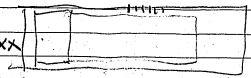
looked 81000 UP bonds
from Valtz, May 18 —

Bally bldg without heat.
Cost 98|461 63 get content,

Standard GA superiority measure



X $2\frac{1}{2}$ weight $1\frac{1}{4}$ oz
XB $7\frac{1}{2}$



XN 10
XX 1 (round Top)
BB Zero

Heine Velander Estimate

1 Ton Horse drawn – 6% is chgd for 8 yrs

	Year	Percentage
Depreciation	40 00	1.80
Interest	12 00	.54
Insurance liability	40 00	1.79
Fire insurance	4 00	.18
Driver	780 00	35.03
Washer	60 00	2.69
Rent	100 00	4 49
Lubricants	5.00	.22
Harness	100.00	4 50
2 ½ Horses at 1.19 per day	1.085 87	48 76
	2.226 87	100 00

Per week 52 42 82

" day 6 7 13

" Mile 17 .4285

" Ton mile 17 4285

Loaded ½ Trip .84

Mailing expenses May 28 0 13

Unchanged

General Velander Estimate

1 Ton Electric – Lead battery Life of 10
Earning 6% on cost & yr & working 8 yrs & working 8 hrs per day during that period

Depn	265 00	11.3
Interest	79 50	3.39
Insurance liability	75 00	3.21
Fire insurance	26 50	1.14
Driver	780 00	33.28
Battery repairs renewals	253 00	10.84
Tires	149 52	6 39
Chains Gears, Sprockets	200 00	8 54
Current 4¢ KWH	177 60	7.58
Battery Man	100 00	4 27
Accident	72 00	3 07
Washer	60 00	2.56
Rent	100 00	4 26
Lubricants	4 00	17
	2343 09	100

Per week 45.06 2 ton 53 07 5 ton 68.87

" day (6) per week 7.51 8.85 11.47

Per mile 35 daily .2145 .2935 .4979

" Ton mile .2145 .1468 .10

" " Loaded ½ Trip .429 .2936 .20

10900 miles per annum
312 days 35 miles day

Supposed same mileage as above

National Co	7 July 1908	7 July 1909	7 July 1910
Capital	10 000	101 000	
Surplus	2.829.367	2.938.629	
Profits	1.901 115	896 436	
Pharmacy Co Cap	600 000	600 000	
Surplus	239 895	414 246	
Profits	259 895	229 951	
Mfg Co Cap	500 000	500 000	
Surplus	66 046.	229 952	
Profit	252 015	344 585	
Bicarm Pharmo Loss		10 308.	

April 28 1910.

Flowing cement without clay.	Dry	Wet
2.5 cubic ft ½" rock	50.1%	41.66%
1.7/8 " Sand	37.4	31.16
5/8 " Cement	12.4	10.33
7 gals 3 quarts water	—	16 66

This flows perfect, rox dont settle
best results when Gorling water used.

Hill of Slutzbaker say Cubic feet ~~of space~~ for

A 6	19.3	including Trays
17 plate MV	21.3	
A 4	14.98	
13 plate	16.66	

17 plate 6.5 X 6.125 X 12.375. Floorspace 1751."
A 6 3.75 X 5 X 12.375 " 1406

Shipments Cement

	1907	1908	1909	1910	
Jany	52410	32929	49032	47179	
Feby	32478	31602	51494	54809	
Mch	76522	71510	121767	144827	Predict
April	111414	79686	133210	165000	165 000
May	91493	92954	149551	163000	170 000
June	101121	96735	162115	140382	193 000
July	120715	116158	148266	163290	192 000
Aug	153887	122572	179956		205 000
Sept	150668	129936	178592		210 000
Oct	128620	123116	155540		185 000
Nov	70425	82389	115241		145 000
Dec	41608	59376	58003		81 000
	1.131.365	1.038966	1.502770		

April 28 1910

Number men operating			648	
" " Constructing			0	
Details				
		Day	Night	
	Operating	359	113	
	Elec & Mech	81	25	
	Farm	15	—	
	Administration Office	41	—	
	Chemist etc	14		
		510	138	648

Kilns Cement Clinker Cement on hand

178.640	167.140	28000	109400

July Sales cement 68.5 cents bags
133000 bbls $9332 profit.

Anderson carriage E 40 Lead 24

wt - 1600 - without battery 100 watts Ton mile

Plate	Wt vehicle	wt battery	amp	watts	Carriage resis.	overload
11	2482	882	140	5760	46.4	82 lb
13	2620	1020	168	8064	61.5	220 "
15	2758	1158	196	9408	68.1	358 "
17	2896	1296	224	10752	74.1	496 "
19	3082	1482	252	12096	78	682 "
21	3238	1638	280	13400	83	838 "

If lb pulls lb following will be weights of Stronger Cars

Plate	Wt car	Wt batt
11	2564	45
13	2840	56.7
15	3116	68.3
17	3392	63.5
19	3764	64.3
21	4076	65.7

Anderson 1600 lb Carriage

	watts Ton mile	Short chg	long chg	Bu L.C
A4	100	66.6	80	120
	90	74	88.8	
	85	78.2	93.9	
	80	83.3	100	
	75	88.6	106.4	
A6	100	90	108.3	142.5
	90	100	120	
	85	106	127.4	
	80	112.5	135.4	207
	75	120	144.4	

Resistances of Jungstén bronzes

½ dia. ¼" thick between platinum electrodes bearing upon it with moderate pressure.

		ohm
Blue	$Na_2W_5O_5$	1 107 000
Lithium bronze		65 000
Purple red	$Na_2W_3O_9$	101 ohm
Reddish yellow		.7 ohm

100 watts to ton mile	is	20 lbs pulled per Watt	
90	"	22.2	"
85	"	23.5	"
80	"	25.5	"
75	"	26.6	"

A4 short chg	7200 watts		
A4 180 amp	8640	"	40 cells
A6 short chg	10800	"	
A6 long chg	13000	"	

Hola 307 70 ft down Raub

Lots Bramith - ~~a~~ ~~of~~ ~~[illegible]~~ plug used in bottom ~~[illegible]~~ ~~[illegible]~~

Andersons Brougham weight with
40 A6 - 2400 lbs without battery
weighs 1585 lbs = $2250 paid for
vehicle without battery
$1.41. per pound of vehicle

A8 = 4 7/8 x 5 1/4 2700 co. liquid
Twice that of A4 -

Car Lighting - Price sold to RR by C&C Co
Straight Lighting 32 cells 60 V 300 amp
$650 @ 600 wt. 171 lbs cell
Axle 16 cells 32 V $325 for battery
$400 to 750 for axle rigging
300 amp list 47 75 - Can Co sell at $17 to
$21 - pay $13 per cell.
Pullman 32 V 35 amp 8 hours
Coaches 10 DH COAR to 25 amp Rock Island
300 amp cell weighs 171 lbs with tray
no pasted plates 3 1/2 watt per lb -

Cement Sales

	A	B
March	62%	38%
April	76%	24%

English data — Battery
100 A4 cells — 1400 cells week

	Material	Labor	Misc	Constant Labor & Mat
Metal parts in rough	40.95	194.52		235.44
Rubber parts	77.79	8.08		85.87
Flake labor 50¢ lb } 50 lbs 1.19 }	59.50	25.13		84.66
Nickel hydrox 55¢ lb	159.58	70		160.31
Iron Mix	89.31			89.31
Nickel Plating	1.53	1183		1336
Trays labor 18			12.09	
Sundry labor 9.56			09	
300 No 5 1" wood screws			09	
Water			15	
Dry Lithia 13-1/3 kilo at 96 1/8			12.75	
140 Litres 21 KOH + 50 grms Lioh at 08			11.20	
100 256 ¼ mac screws				36.28
				06
	465.00	250.00		715.00
			Gent	264.00
				979.00
2800 weekly	450	220		670
				220
				890

Details of General Exp per cell:
on production 1400 cells week 85 hours

	Labor	Material
Rent		10
Electric Current		39
Water, Gas, Steam		11
Formen	20	
Watchmen, Sweepers, Elevator men and general repair gang	15	
Inspectors	33	
Factory supplies oil waste, Pencil Slitting Screws, Emery wheel, grafite Screws Drills + Lab chemicals		19
Repairs to plant + equipment	45	
Repairs, replacements, material Machine + Tool steel castings, Lettering		08
Pipe fittings + Electrical Supplies		
Executive — Engineering — Office + Sales Dept salaries	48	
	1.61	1.03
Total 2.64		
2800 weekly 2.20		

Chlorinated [Chlorm 8c]

Toluol 12c lb including cost material

Solvent Nap 21 lb —

Naphthalene 13 MP Toluol 194 Feb

Xylol 38 Xylol 310 "

Bad iron brot back by long low charge rate req A4 pocket which been run 250 times in small test cell + gave 580 @ 1160 gave after 30 hours at 200 ma

1200 1775 1900, should go 25@27000

Cement price agreement expires Jany 1911

	Trucks	Upkeep	Bal. Light	Yard	
Adams Ex	155	68.30	2.17	651	
Atkins Vanting	13	32 65	3.14	1020	
Tiffany	21	47 92	3.71	1113	
Horn + Co	14	29 62	2.21	663	
Macy	15	36 01	2.13	639	

April 28

B- 273 m - B pledged for 95. 120 m -

Fidelity for phone bonds maximum 32 m

Emp Co	Inc 2 000	Supplies 23 500	
Nat	Inc 26 500	" 29 000	
Works	Inc 30 000	—	

MC	17
WS	5
UP	41
MP	48

Battery Co owes E

Cement Co " E

Lumsden Co " E

Works " E

MC Cent	98	Chrom MPac	50
LSMS	25	WS	10 for loan
UP	110	LSMS	50 95 -
WShon	64	MC	10
MP	1		120
	298		

Fidelity for for MP 32 — Macy 20

book out 81 000 + prevous 25 000

Sold thru JPM 106 000 out

Thus fond 299

106

193 of E gently on loans

left

June 1st 177 000 bonds on hand unlegally on loans

270
100
70
440

Oct 1 1909 Cement.

Notes in Banks	270 000	
Notes RHT	146 000	
Shelmerdine	3 264	
EC Miller	936	
J H Thompson	1 349	
Edison 3 yr notes	661 238	
Edison 4+6 months	268 710	
Mchdz notes	104 427	
Accts payable		1 456 237
Pay Roll	26 472	
D L+W Freight	61 067	
Mchdz accts	84 288	
Paints+Phonowks	16 704	
Total	188 537	1.644 769

Victor Speaker Weight 5½ oz swing arm
1 oz total 6½ oz Pathe Concert 7 7/8 oz
Smaller 5 oz 40/1000 Ball.

24% our Records go abroad
16% Phonographs "
26% Films "

RH Beach 10 5th ave

Cement. Things to be improved to get cost down -
Gradual change to steel on mine cars
Arbors on Rolls
Lagging pulleys + Conveyor pulleys
Gears on Cooler
Wear linkes 125 + 126
Screw Con Gudgeons
Linkes on circulating Conv
Repair big Caesar

Poured House
Cubic foot ½" rock 85 lbs
" Sand 95 "
" Cement 92 "

Proportions 1.25 Cubic ft rock
50 " Sand
25 " Cement
3½ lbs Clay
3 gal 1 qt Water
12.6% of whole is water.

Length short tubes 23 1/8 or 46 1/16 lbs
" long tubes 65 1/16 lbs
41.5% increase in length —

Cement Probable saving 1909 shut down

Mile pebbl	
25	profit on sale 800 tons limestone daily.
42	Savings on our lime, washer, 1 Quarry + freight
5	Belt wear on account cir con + lightening bar
5	Saving chalk in dustes
5	New Packing house
25	Kiln coal.
1	Saving in lime, No 2 dustes dryer
4	Less repairs
1	Bins in stockh + slopping humidor
2	Shovel No 2 Quarry
1	Oil

Cement.		Monthly
	Selling	11.000
	Advertising	4000
	Genl Ex + Commissions	2000
	Interest on notes	3000
	" Edison notes	4400
	" Bonds	7500
		$ 31.900

Exide — Cost of building 1 cell $160 — 24 cells

Plates	7	9	11	13	15	17	19	21	
Amperes	84	112	140	168	196	224	252	280	
Weight	22	28 3/4	35 1/4	41	46 3/4	52 1/2	60 1/4	66 3/4	
Dis rate	21	28	35	42	49	56	63	70	
List price (44 cells)		407	505	583	658	742	830	910	
33% off		263	339	388	441	494	556	600	
Wattpall		7.4	7.67	8.19	8.16	8.3	8.13	8.23	
watts		9.520	11.900	14.280	16.660	19 —	21.420	23.98	

Edison 1.50 12.750 — 19.125 — 22.275 — 19.125
70 — 1.75 — 14.875 — 26.25 — 22.270

Victor Rec	dobr	profit	Disater	profit	list
8 inch	17	4	21	14	35
10 inch	30	10	40	20	60
12 inch	50	16	66	33	100
10 for Blue label	45	15	60	40	100
12 " "	67.5	23	90	60	150
10 Red Seal Victrola	112.5	38	150	100	250
10 Amen Red Seal	45	15	60	40	100
12 " "	67.5	23	90	60	150
10 Victrolas "Amn	90	30	120	80	200
12 "	135	45	180	120	300
10 Tamagno	300	50	350	150	500

Moving P.P.C estimate receipts for yr films 240 m
Exhibitors 350 m machines 20 m. Jany 1 1919
To June 1 1909 film roy 104 m Macroy 134 m
Expenses 53 m outside legal.

Average cost Negative films 1.40 foot
cost positive films including everything
5.85 to 6,00 per 100 ft average selling price
8.55. 2.7 profit. see what it is [illegible]
Waters cut off -

2.8 130 28 104 260 3640 2080 504 56 52 2240 1120 2620 293 240

July 1st 1909 EPC - 21731 preferred 91470 Com.
759 bonds 884,000 - notes = Endorsed
on 253 000 notes = 228 000 due from customers
260000 bbls on hand 161000 Directors notes
43.000 Gilmors & 2nd Natl 123000 mchdz
220 000 notes in banks.

Records	5	amb
Wax	174 00	174 00
Cartoon	99 25	112 55
Sundries	12 00	12 00
Patent	181 09	181 09
Labor	165 50	165 56
	6.3 c	6.45
Freight	45 00	45 00
Pkg + boxing	51 00	51 00
Advtg	122 75	122 75
Genl Exp	152 00	152 00
	3.7 c	3.62 c
Sell	15.2	Sell 19 c

Cement dealers	A	B	Total
Mch 1st	690	299	989
Mch 31	760	349	1109
April 15	802	371	1173
April 30	830	377	1207
May 15	842	384	1226
May 31	849	388	1237
June 15	852	391	1243
30	862	396	1258
July -	875	411	1286

Big Record $4\frac{1}{2} \times 7\frac{1}{2}$ 14.13 in circumference
Velocity 37.58 = 8 3/4 minutes on 7"

Victor 12" length record $2\frac{15}{16}$ Speed 78 Rev
3/32 thick runs $3\frac{7}{10}$ min spinner inner part
22.18 – outer 46.3 – no more margin mean
surface Vel 34.4 weight 300 grms cost of
material 6.8 c per disc.
10" Disc.

Old Bismuth pockets 15% Bi highest, gave
322 mah per gram of $Ni(OH)_2$

Heigth A4 Tray 15" width 6" 8 cell Tray
24" long wt 8 cells + Tray 116 lbs.

A4 tubes give 8% less capacity in cell than
single test tubes.

9 lbs plate from 15 lbs punchings 333 gal
Cu NH_4SO_4 liquid is good for 100 lbs Nickel plate

$$44\overline{)565}\ (11.50$$
$$\begin{array}{r} 44 \\ 125 \\ 110 \\ 150 \\ 132 \\ 180 \\ 176 \\ 4 \end{array}$$

2944⅞

70

32
3
96
30
2) 1.25
63

30 400
600
24000
9600

9846100 (10,2
96000
2461

1350
2700

896

135

2289
3446600
1469

28000
2400
4000

(14

15
4200
300

98000

96 2000
88 2000
8000
17

92

1,900
259
259
2,411
1,468
943

300.

960
300
1,260
1,080

144

87 ft
1/3
435
2,175
1,0870

1 ft 1 inch third

12) 460 (38-
36
10

7776
2,880
5,148

1080
7200

5888
2355.2
1413.1
175
4
700

141
2160
7560
7776

365-
7200
7300
2555
2628.00

1584.66
2485.87
1603.1
3600
16684

147
36
8883
2944
5888

6) 51480 - in 6 weeks
8580 -
3248
534 8580

1080
324

5340
3204

Notebook, PN-10-11-01

The one dated entry in this pocket notebook is from November 1910. The book was used by Edison for notes regarding experimental work and other tasks to be performed at the laboratory. Most of the entries pertain to storage batteries and phonographs, but there are also notes about telephones, chemical researches, and various uses for the phenolic resin, condensite. The battery experiments include modifications of battery cans, trays, rubber parts, and tubes, as well as variations in electrolyte and methods of manufacture. The phonograph experiments involve the composition of phonograph record blanks, recording apparatus, and reproducers. Also included are ideas for marketing the batteries and phonographs, questions about infringement suits and patents, and data on labor. In one entry Edison plans to divide the laboratory's engineering department into several departments: "Battery -- Leland & Storage; Motors, Rectifiers; Kinetoscope; Phonoghs; Miscellaneous." In other entries he mentions the work of Leo H. Baekeland, proposes to have Paul H. Cromelin handle Edison products in Great Britain, plans to develop a $35 hornless phonograph model, decides to check on the progress of submarine batteries, and questions whether Ralph H. Beach should run his battery-powered streetcars in New Jersey. Among the employees mentioned in relation to individual experiments are Jonas W. Aylsworth, Charles Dally, Frank L. Dyer, Miller Reese Hutchison, and George F. Scull. The pages are unnumbered. Approximately 120 pages have been used. One group of pages has been detached or removed. These pages have been filmed at the end of the book.

1 Bookkeeper	50	
1 " assist	10	
1 Stenographer	18	
1 Draftsman	30	291
2 girls	18	83
1 Stores	18	374
1 Engineer	50	1496
1 Foreman	35	
1 outside	40 + 30	
1 Running	40 + 30	

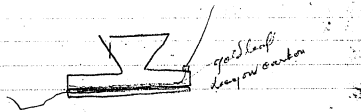
4500
1725
2775
26 | 106
2675
175

4500
1600
700

PN-10-11-01

Wax 12c	1,74 00
Cartons labelled	99 25
Sundries	12 00
Talent	1,81 09
Lecture	1,65 50
Freight	0,51 00
pkg to you	1,22 00
Adverts ?	1 52 00
Stock Rec'd	
	10.3

Nov 1 1900

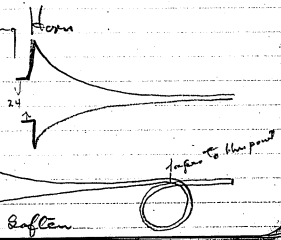


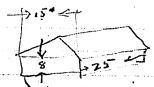
Telefon

~~Lomo all reduce 4/2 2O3 by reduction gas from phosphorus works~~

~~Ferrosilicon see of Carb purify Com 4/50% by recrystallizing from Mn + Si S etc~~

Recording Horn





Canvas house

in field for music

Look out for Vacuum filter for Petrolatum Shellac mix —

How about Corrugating bottom battery Cans —

Transfer Mina 1 M battery Stock to Central Elec Mfg —
Central E.P.W. Meet Canal Grade

Glen Ridge press Complete record
Req Vic dud stock for cover tests —

See Repairs - billed on apparatus
lows

Get from Stokes 16 rubber ready to Vulcanize into hard rubber.

After get new Spkr off a hearing aid on Try Batt in it -

Get Sales phones on My sense was attended the Electric A.A.

Dry batteries 2½X6 15@20 amp hours at 100 Milamp discharge rate -

When get Apel spkr OK for one for W-Letter M to steal record.

Patent = 15 Lac 5 Telra ½ Zn Sleeve

Dyer about having talk with Mussarman & decide things

Lawden fixe up Johnson Tuxed Lumen for House

~~How much~~

~~paid Dyer~~

Heater - design ~~test~~ RR 6 ~~cell~~ cy
Cap for temp tests
88" long 25" wide
23 deg - using blower

for Lac Tonglenum
Citronella 25c lb
Oil Camphor 11c lb
Sassafras California 30c lb
Synthetic wintergreen 35 @ 37
Rosin oil 4# cheap
Peppermint oil -
Vanillin -

Try amorphous graphite in Lac Rn

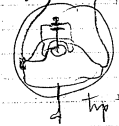
Make B4 crates right away

~~Chouteau Tract crate~~
~~bleed with dopo, take~~
~~small piece soak hot,~~
~~Try brush on etc -~~

~~Gold dust make by Rolls~~
~~some green with 1½% Ca~~
~~Ba Sr~~

~~Try asbestos in Lac a spin shell~~

~~Have Amberola supply~~
~~changed to all one center~~
~~+ tapping S. of Can~~
~~John oil from out~~



4 tap

Have Archer load tube
then Compress flake & then
screw & make another tube
see loading cost flake
for Bergman flake shipment

Wednesday 10 Miller leaves
big ~~[illegible]~~ 9
Needed

Reick 10th Med Ave
~~7 pm~~ - 7:15 pm

Earl Stone House
1/2 mile Locust
Hendelman Ave for
Bloomfield

fix up the Adult for general
delivery -

Fig up for 125 lbs Crude
Solve delivery and return to
Wonderlodge at National Pa

~~Aerson Cabs Thurs 50 60~~
~~To see if [illegible] work for~~
~~Experiment in N. Lawrence~~

Diamond point for Lee Records

Try wear test of Saphira
test on Lee records & records

Design & make such cases
standard trays - clad
special Mine Loco & RR
Inspiring Crate, & [illegible]
[illegible] Crate -

Argument - direct connection Eng + Dynamo
Costs 3 times Unit of Gatto -
yet it displeases Gatto -

Schuffel set up on
Petal Plant -

Look up alloy gauges
for fibre, see Shuttleworth Calaloque
etc.

Find out about highly accessed
Maple Lumber -
Boston probably

New Idea -
Jumptube of an alkali
as an Electrolyte for
Storage Battery - using
Manganese Tin or Fe

Permax. Use the big
Record at 160 for Equipment
Rig up new reader - also
air reader for it + go for
good beam for disc -

Drill holes in arc carbon
press buttons hydrated MnO_2
in holes, first making
buttons by hydraulic -
wrap blotting paper
over carbon & dip in with
string or paraffine if
further overall +
test -
also use MnO Mn_2O_3
as well in buttons

Wurth why so much
Ice - 3400 lbs day

Fabric-asphalt for inside
front Cam, — waterproofing
bags etc

Leaf chest Fz Bipots
4 tubes 5 grm Fz
2 grm 3 " 4 grm
KCl, in the 21 K 2 Li

ditto Fz Fz Hg
Hg

Ditto Reg Fz with 4 621 Brunile
tubes —

Fz with 4 tubes 25 K 2 Li
" 27 K 2 Li
" 21 K 2 Li 3 Zn
" 18 K 2 Li 3 NaOH.

Expt. take some green ready
to load soak in Conc H_2SO_4 —
then, rinse out & precip by KOH —
do it twice dry each time —
& finally wash well
2 tubes —

Make Ambrosia Spher
for 4 minutes only
adjust the 2 & 4 mm one
to work —

Make Model Reg Hf
& also 2 mm spheres
as models to make
others from, thoroly
test many def Rfnds
Records +.

Goldstein Hovorka NaOH 2
Cellon lot Shunto
make

Barium hypophosphite
flexible needles / at H_2O
lost at 212

Ammonio-ferrous orthophosphate
soft scales, rubbed in finger looks
like Subnit, very fine, soft.
if boiled KOH, goes to magnetic
oxide & presence of
Crystals $(NH_4)_2 Fe_2 (PO_4)_2$
$2 H_2O$

Hair Salt = Metallic Sulphate of
Aluminum also Iron alum
$Al''' Fe (SO_4)_2 12 H_2O$ - delicate
fibrous needles - Manganese
alum white silky fibrous
fine —

Try powdered gum benzoin + Rosin
mixed & heat to form
Resinate lime for records,

Ortho phenol resin

perhaps Illinoise or Cameroon + magnesium
powders + heated Combine to
Cr mixed for records.

Try Lead Salt of Sugar, Ba Salt
Mg Salt,

Bleach velvet not run to
South Orange, are concealed
runs to Milburn on summit,

Asphalt prevents Crystals of very
Crystalline acids like Chromic
work to put asphalt in recording
Cylinders to make Camorp
of Coal Mills —
Dyes dossame — ?

Reg 2 tubes 2 K 2 h 2
phosphorus acid &
2 grms Metallic aluminum
the Rhos acid takes
care of the acid –

Have Dolly put a ring in
when paper

Get the Vic Catalogue
Make Loudly & get your
Catalogue & hold Loudly
on Wm –
Dance mpeva also
Get Pirnder Catalogue

Start a 2nd & final
Model, with Motor
right & funnel 20 foot
Cut out bottom –
also a top & sound
Reg on –

Pass resolution Henry Cloudy
set nails – also compass to
large sliff to Frank & see 6
depositer of Thumb –

Take Anderson off Bass
Fagnall & put him on
Trombone – battery Crates the

Legal & Gen'l, pirated
funnel paper –

Get the Wagon Catalogue
Lifted wagon –

See Dodge standard trays
A4 3 4 5 6 7 8 8 Cells
A6 3 4 5 6
A4 3 4 5 –
RR Battery box + B boxes

Gwa Dyes Coat Victor Dye
Material for Baekeland.

Wally Arabesque
by Lack

trouble in [illegible] would be large - smaller
[illegible] hole & part paleche
[illegible] cat & [illegible]
part shined go. [illegible]
probably cat & [illegible]
[illegible]

Weight out lots of Tabor [illegible]
in clean room & Try for
a liquid chang to take
place Dichlorohydrin -

4th Lac Substitute - Spin with
asbestos.

5369-9- 1690 before at 75
1390 at 42°

Jenny Spec Dodge

Ser of can melt Shellac in
glycerine, - Monochlorop
& other liquids that
wont soften by heat being
already in liquid -
Dont use Tolra,

Try procaleum saturated
with, Barylahydrox, $SrOH_2$
MgO ZnO, PbO
MnO, Alhydrox $Ca(OH)_2$
KCy - Boil phenol out
Try all the oxides
& hydroxides - sulfides -

Possibly 9/12 Rum Pb0
+ a reducing agent which
may finally succeed & and
+ toughen it — possibly rum
itself reduces the lead
of Pecan by common process
which [illegible] with it —

Complex of phenol oxyn mol prop
Combines Try 4-6 or formulas

Have Gelatin figure out
Fowlers paper on our cell
Nov 10 Chem Abstracts

Johns Oil Stove Cutting & follow
Obliterate announcement
on Records —

See Bachman about
Heavy Lighting Battery
auto trouble

Holland Tech created A-6
as now, then wet down
again & dried,

Just was Enough pour
Tetra Lead Calcium for
a Complete Take over
Uses — Dually make —
also some with more calcium
less Tetra —
15 + 4 — 12 —
15 + 5 12 + 15 chalk
15 + 5 12 + 20 "

Special Goodrum about
Parlan Clarion Pa
Clarion Pa
Wagon preparation —

Also Walker Furnace in
selling attachments about
the scheme on wagon —

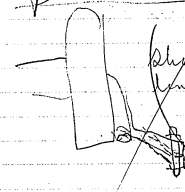
See what I can get a small orchestra for for 3 or 4 hours dance, something bearable

Desirability of circular to all dealers giving substance of second wagon experiment

See if Can get 100 from all the def stales from pipe line leaders to test for gold —

Find out from Lee when Hanna & Co battery run 25000 miles want put in necessary & test for Adv in several cities —

Pressure have Cook fix up Reg Rippler with heavy extra spring & has not under much of my tension like I took scratch out of ~~phone~~ chalk telefone —



Shows bra dalled line not as now

NWA — Use Vac on mouth. Must jump or MNH & absorb by 4,504 — or steam & condense

Adm Jr

See if Sulphur in the tobacco
hurts humidor of Carbunculum gun

See down stairs if Carbuncula
Mixture with tobacco —
to Contract it — Olea Steam Ro
Rosm oil, Oil Camphor, amber, phenol.

Try less Asbestos in tobacco
to prevent Carbunculum —

Try without asbestos —

Try gum Resin Tobacco Asbestos

form some Mixture
217 30 33. Cold then
use (5 grms) with 24 tubes
dose if 1st dont permanently
run higher —

Clocher Mixture 2 Inch
5 gm Tr. charge them again
Nistrip 24 hours

In 20 NaOH. 25 NaOH 30
NaOH,
also Saturated LiOH —
also mix of 21 K 6 Li 10 NaOH,
put in Rus Reg 21 K 2 Li

Lady Dow - Soprano & Male
Voices,

Clay - dry. coal dust fine
Quarty sand, some paper fibre fine -
Coarse sand - about 1 gallon
put in bag & knock to decent
goes under wire and upset some
on top. Coarse sand thrown in,
on bally - 6 drops wet with
KOH Inch tube, test Tobacco
tube. Color improved put
Current on Continuously
3 days, then take off wet
& next Day put Current on
& go on for long test.
Bally Created in Chemistry

Design new pake etc A 8
" " E 8
C 12
C 16

also Subnormal C 8

gura, cubert ex Record Dia marked hand stuff on days having on 25 lot runs - Jack gura Vic Stuff 19 - prepare total no fond. so on hand base -

Schiffels get Model 3 1/2 cy

Effect [illegible] on design

Due to the tests for Spanbow [illegible] Wash [illegible] the new [illegible]

Bypr - about desirability of making no double face records & lowest price $1. 60% off. -
Can buy out double face letter

Take several Reg Tuber Reg Ra after 50 Runs - take out grain treat gypsum slip wash dry & make up new liter - 2 liters Run Reg 2 run 7 h. 21K 3 times, 2 supply out put on 21K 2 h. grain heat -

Holland Hon about Hanging in Carbonnade -

Schuffel - all Handles must be detachable Lake Orange

Cost LiOH anhydrous

Li_2CO_3	500	9350 lbs	$ 4.675.00
CaO	031	8150 "	252 65
H_2O	01 gal	124000 gal	1240 00
Coal	2.30 Ton	78.5 Ton	171 00
Labor	$200 day	6 months	288 00
"	800 week	6 "	192 00
			$ 6.818.65

5775 - 100% LiOH. 1.18 Lb -

Could pay 850 for 100 Cryolite LiOH

Sec Pickman up the deep
tracking Records of was brought
over —

	Number
25 Waltz	15
8 Polkas	4
6 Mazurkas	4
5 Schottisches	3
12 Marches	8
18 Overtures	12
5 Barcarolles	2
20 General instrumental	12
25 Duets, Trios, Quartettes	15
25 Single Songs	13
15 Solos	8
10 Dances	10.
10 Piano	6
184	111

~~Sock tube (not (150 feet) Cong
Sol L.O.H., for 3 or 4 hours then
pour out + put — 21 K 2 L 4
quickly put on chop~~

Pacy orchestra $2 hour per man
Leader $4. $34 per hour for
16 men — Can make 3
in 4 hours —

Band same rate, 20 men
& Leader —

Margaret Sylvia $333. per song
+ 10% Royalty — on list price
10c Record.

Carmen Melba — 600 song
15% on 75 cent price —

Records for credits may be given for premiums for allocations + sales. Thresh them out
Instead chopping both with credit received they may be held & chopped twice year, - Cleaning the well check & we might have traveling man to check — Thresh them out,

John will make break wheel so it chips & then keep a Contract for dressing 1/2 the chips size. —

Archer 2 tubes 36% chips
3 times then supply out put in
21 2 Li — ditto B. 12 1/2 .
2 tubes
ditto both 33 NaOH,

ditto soak in hot conc BaOH,
do SrOH then transfer to
33% KOH, Cold run 3 times
supply out ~~out~~ put in 21 K 2 Li
Both Reg & B.'

ditto NaOH 33 -
ditto soak both Reg m + B. M
in Conc hot LiOH, change to
33% K saturated LiOH, run 3 times
Change to 7 K 2 Li
ditto MgOH 33% —

RC - makes double sulfate Fe + Co
ditto Fe + Sb ditto Fe + Ni.
Fe + Cd. equals + redium for test

drop with these as 25% of chloride
sulfates are in - ditto 50%

John will + Lay out 5 drapm
Recorder —

Pierman get glass funnels —

Chlorate or
Dry Perchlorate in Cells -
Na. K. Li = book 1st =

Singleton W Davis 854 E 54th
St Los Angeles Cal
Send "Future Life"
and all the Empires of the
Humanitarian Revision up to date,
Send $ 8.75

75c

Dealer Ambrol 30c Bleg 3 1/3
Jobber " 20 " 5 1/2 -

Get an old flat record Model
to plate on - put L on it.

Plate over a 4" deep plate
with Ni - polish, then plate
Co or Fe + reduce to Cu plate
Copper 1/4/1000 - strip +
use this to press on a disc made
by microtechnic -

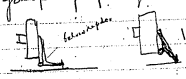
see how thin good sheets can
be made pressed =
possibly annealed in Hydrogen before
pressing on disc models -
after pressing put cement on it
with a backing to pull off -

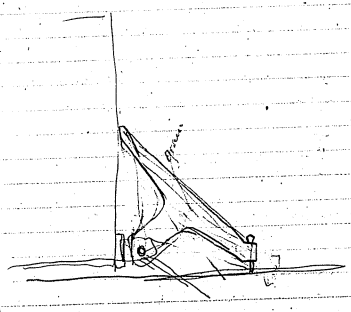
Get old Model disc to press
Tin + lead Spring - Cu Spring
Cu reduced from powder by
Hydrogen then Cu mixed with Tin
reduced by Zn or Al to bind it
or Pb -

Note to Walker - Helene
They say they are tired of phono
don't play it any more, ask to
let you ask it to find out what
the trouble is - see if little old
style horn, if not a speeded right
Reader bad, or what is trouble
if no your judgment it's good
Get them to let you leave an
order for some records 4 mo
Say you want see if can raise the
interest to some day Wednesday

Get first of the 300 C/O & the 500 that will be cut with & have somebody select for Walbersonne found one for his kept —

Can get spring by lengthen lever





How about a wooden dia holder no metal also wooden horn no metal at all except to secure together. Can be made easy & well be light = lead used for weights.

Bowl makers in Maine make cheap

Can pin & glue sections, be resonant

See Scheffel = How about clock work that were ordered for dope what can been done on them — How about Changes of frame were any frame of 1st style ordered

also increasing Center pin to 1/2 or 1 inch so we can get disc to run true & not break wrenches by drumhead Center —

Can Center be reamed by a 4 way points in last process

Can it be moulded in —

Scheffel make a square
how much stuff multiple
the speaker 1½ in near speaker
clamped in sections - use spacers
& design to Ruth & made by
a Carpenter Front Violin
Color - fit model in
1st Disc Exact Box

DEC 1 127 [illegible]

Galvanics - Make Oxyhydrog
for Concent
ditto Zinc oxide & chromic acid
Could cut film chromic acid over
flat Mastic + throw ZnO over &
press + let it harden
ditto Oleic acid + throw Dehydrate
Aluminum over.
Silicate Soda + throw over CaOH. or
quicklime,

Platinum pains. Coat Upon dehydrated
by heat 212 to 300 Fahr.
then dip Dehydrat, then Galvanized
antimony -
Mould & then soak in
Ammonium Borate,,

Sheet of steel .005 - lay on paper -
flat dish & pour Copper Sulfate
on till Steel will reduce
to Copper wash - then
put on record marks &
press - or lay the steel
on Nickel plate & reduce
& then lay disc marks
over & press.

Meakin's look up
Cuttings in 1858.9.
1898-1 for Moving Machine
also from other [illegible]
books, when first pamphlet
Dendrophis sold to Malpuna
+ Bachus, or other + shipped
to England - [illegible]
Newspaper Cuttings from
England - also look for
articles in Figaro

Somebody found Cement
thing a bag - also that
in Alcohol to get it
infinitely fine powder &
put on black varnish

Moulded Stucco Cabinet
for Umbrella performance
Sheet to shape + mould
for moulding stucco on

press cheap crystals in
1/2" moulds finely divided.
press, provided chemicals that
are mixed like $NaSO_4$ + $NaCl$.
Expect reaction on dress,
Early Sulphide, Ammonia + BaOH.
or Ba Caustic,
Silicate ~~Soda~~ Potash + perchlorate K

See Holland's Dessert Lately
of make 5 gm tail vrom 7 gm
so tools & papers -

Sulphide Ammonia + oxides of Zn Cd
Pb, Ba Sr, Not, Specs are to get
basic Sulfate -
Phosphate Ammonia,
Silicate " Sopidr
Borate "

try precip PbCl,
Silicate Soda, add PbO Sl
Melt it see lowest temp
Can get a glass, to soften -

perhaps Silicate Na very hot
dissolves water hydrated
Silica — Can be poured out
dess — K Silicates,

Silicate Na after evap of
high temp may be drawn into
threads need to be kept constantly
washing to prevent access
CO_2 CO_2 leads on an
decomp on it to Si
How would it do to pour
hot steams of Rosin over it
then decomp it + K or Na
from Glycerate K
Silica Alumina Carb Silica or
Sulfate lead lacquered
with Water glass lacquered
mass becomes glassy hardness
on exposure to air

Silicofluoride of K nearly
insol water

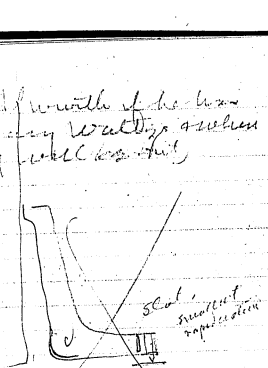
Dry Silicate Lime + ZnO,
precip SiO_2 + ZnO, pressed hot,
some K or Na OH in the precip
Silicate lime to bind ZnO,

Silica K Na pressed or liquified
lime carbonates etc to form double
silicates.

~~With Carbs Sulfate K or Carbs~~
~~Boro~~
Water Glass precip by alcohol
gives Gelatinous | K_2O & SiO_2
Thus cool water —
gives Can be pressed OK —
Moist or without a little water to
dissolve some + put to gether —
then dried

They have a Tow of K Silicate
at Silver Lake get some
Mind this expands by heat

See if worth of the horse used in Walking & when they walk [illegible]



Look at last highwals on ck Sylvia see if jumped out

Buchmann about getting smaller wheel for Horse Electric and standard small size see if Reckhardy has them

Reps

Archer drop the Bus over Chalm. had 3 at L. then 7 & 6 L. & now 1600 without pulling in 21K2 L. put in 21K1 L. 3 tubes

Drop 21K/2 L.
Drop 21K alone } 3 tubes Each

~~[illegible]~~

See Hunter about length A6 Trans see if we can get them as now

Try Premium record on big amplifier

After John Old got details put new double cut reproducer in Cumberland connect regular & Ryan record full length also several long records

Uncle Experiment Cheebrole Spike wooden lever doesn't lengthen

Sections about a Waterfall
Bone Wagon - auto only can
Make large fields 50/60 Edison
is nothing = Hawaii Islands
with horn & Lammenfield fuel
dates fines sheets long communicate
Res in Clouds, one Copper one Carbon
bunch to break - of fan on end
Hales Horn unknown

See Berliner & Jonah operation
& Scheffel Stagon —

Pierman 8/100 Cylinder
Light Reader hinge deep
Try Horn off records
Piano Sonic dictaphone

Operations on Neco Veneer Lacquer

Reaming 8 seconds.
Taking Entire out, 5 sec
Pour Lac 3 min.
Pour Moulan varnish 5 minutes.
Chill - 3 min -

Get dry piece of Fancy Cement
work & Knots, Fine work
Mere paint Geology Colo
metals ideas —

Over Catalogues have
best Song selling put
down, Deals - Etc

Run new 2 not Spoke full
length Cylinder on
Triumph 25 Time of
OK Sensual recorder
you do Not in Cumberlands
to see if fault is Cumberlands
or Stylus

Operations on Neco Veneer Lacquer

Talk Dyer Bros. that
Anderson cogs, at end Anderson
year if bottom not sold
in good order we will
label it & put back,
and Anderson to not charge
for bottling but yours to agt
the 20% take the bottle
Tell A. give 1/2 back going to
do it. Also that he should
give more room for bottling
to take care of future
mushroom mold & warm
Barley.

Buchanan bros since run
horse electric mulching the
snow & brake shoes &
some grades might run
before snow goes —
Ask if he could find us
larger Realtor —

Schaffel How about the
Ball around the reproducer

Change the bad crack in
wood funnel —

Make desc Sphr weight 1 1/2 oz
but so can be loaded up to
3 1/2 seconds and - run curve of
hardest pressure after yellowing -
best chin on Model 3 1/2

Goodwin Where will
Stays be put -

See Dyer - Dalbar + Hy Jobbers
speak of how they are to
get their own recorder brake
say to pure jobber that all dealers
will not send 10% brake might along
as they will not have them,
it does seems there was wide
help them out but to Dealers jobber
Ritual Sales + Houghton Dealers
help them out brake

Archer Collect old
Cups to show def number
Makes fragments stick —

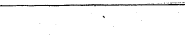
Make old long rem tubes
boil in alcoholic KOH, long
time, then wash out, then
[illegible] other trials 1/2%
H_2SO_4 for few mins —
1% 2% — def length time

for disc rec — Silicate and hyd
very fine, dry then dampened with
conc Barium hydroxide solution of K or NaOH
+ pressed that this contra white ppt to
be unaffected by water as $BaCO_3$
will be carbonated + fill pores even
if Si hydrate is slightly soluble —

Speak to Mum to duplicate
the dropping tested washing
+ use strainer and oil also bring
also more shellac

also Ivory celluloid built up
same way
also 4 in more than round thin

also



Ask Bliss of I can measure
speed of motor by hammering fines
+ what is loss by hysteresis as
speed measure,

Photone bleeding fuse —

Karel Boardman Pioneer
54 Morningside Ave E

Patent - Printing film optically
Printing Music, Projecting Music
New Tray Gutter - Telroasphalt
Varnish. Impact on Ni hydroxy for
S.B., Long drying -
Melted and B. OH to precip Ni -
Spinning, Telroloc, backed up
Clothing Lac, resin -
Ball on Spokes Confirm Spokes Sounds
Left of Horn movement.
Key for holding records
Wooden Spoker arm -

Try NaOH) much dried reg lime
but in presence of free NaOH +
some organic matter or several
kinds to make NaOH slightly
soluble, to permit Cupralign +
Lockering Lozenges, Telroloc or
Tartaric, glycerine KCy
Smell of prussic.

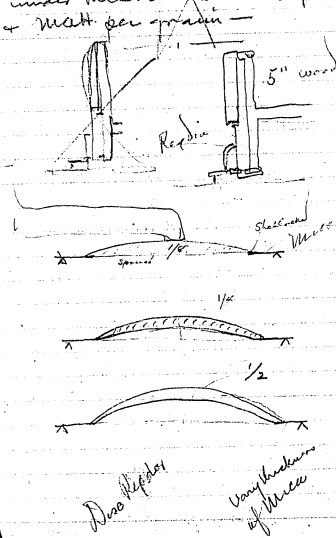
Plaster and base of pianos
meant to horn

Take 1730 tubes out of crate
+ soak ~~[illegible]~~ put on tack.
mark how made the one that is put up

Goldstein. Reg NaOH, with minimum
chlorine + 3 grades between of
Excess KOH + 1 box each day
12 to 14 days. (c) Take dry
1/4 hole -
Also Reg NaOH usual NaOH
+ 3 boxes 1/4 Hole 2 1/4
holes 4 1/4 holes -
take each out when dry
also the Key + Organic matter
got from Dwel the Guelph Company
that makes KOH sol in KOH
Try some of that -

Try that Carbon telephone
I made for recording
put Anderson on it

Look at 5003 groups under micro — see weights + Matt. per grain —



follow up the 42% = to double 21 = Eco Pbo about double checking + 2 new sign dropping Tag — doo test man reasons note for Cells without leaving =

New Idea - Ground Borax acid + oxide lead + other ideas use press on dro a mixture 9. he mt To Cause Combn / Little Sulphur + Zn powder, he and g.e.

Rate Submarine battery at one hour discharg rate

Charge an auto fill at 7 pm, get temp up above 70, then close box tightly, no cracks let it stand and doors off, drop of temperature

Take away backing from Daphne Chuck wad of Record material is cause of streaks 1/2 way round on Sonora record

Have new model backed off at Daphne so can calculate wax

Talk Dyer about Hudson Running battery with Rhail Supt & getting another man for Stow lake Hudson Running Islands from Battery Co —

Go down Phono Works look at Lauraden battery box for leaks —

Look at Lauraden Motor
ditto motor on Studebaker
Anderson & BAILEY

Premium
for deep cracking case those
Daft Rylander Rylander
dent —

Premium — also Reg Cylinder
heated to soften, platform were
just after the ball - balls 1/8" in drums
platform were extending 1/4 to 1/2
away round the spindle & as close
as possible. — also follower heated by
[illegible] or platform heated by [illegible]
or from [illegible] platform

Hallam to go Elcoln E.S.B. to
is boss of the testing of balls
over at works — He was full
[illegible] when they carried
out,

Goldstein purely divorced Copper
& Sulphuric oxide —

Write Mason what became of his chief draftsman
ask Hartlin about —
Ask Weber if he has an A1 foreman & knows of one
Ask Fred Shelby if he knows of 1st class ~~Norden~~ draftsman

57 Long test sets 6 each greatest average difference from highest to lowest to 136 max —

Look up see if I have increased weight of things with the Smith falling of ok Have Smith do at the big machine & make some tubes & of ok Enough for 2 test cells full size

Ask why all the anodes go to — 4 to month 36 lbs
Such don't check up —
get from VM all nickel metallic sent up for year & check them up with cells & look out know

Christmas dip canvas in Talva dope make a bag of it + put in 21 ½ lb. + see how long it lasts hung up — see amount dope per sq ft of thick canvas —

Figure out cost of Canvas Covers so we can sell to mfrs for winter use —

Ask Flake man how about painting now work now Cream & old pottle Talva dope —

Ask How hour-glass works.

Put L Oil on ink to go on new record, burn

W E Atherton Pittsfield
Engineer of Equipment
6980 Cortland —

Quad

Get from Legal dept patent on Reel for Quad + Have L Oil set up

Patent Copper pole pieces triple nickeled + annealed for Submarine

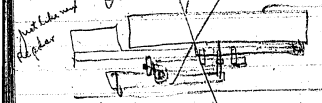
Patent details fastening plates, Etc,

see Bliss for 1 turn armature Cambric made,

Fred Ott made Composite smooth face record for Patil & have a hum piece (not reamed)

Design Johnson

Rigid fixed to frame



Weekly Rept disc Record made by Miller also read & punched W. with ditto reed Glenn Ridge

Brinley plate Nickel 1/2 thousands sheets for disc

Check up Nickel 1/2 thousandth with Sidy & K that the S.O. will stick to it & it will leave moved

Have Bliss go over the work in hand — get a complete list of work in hand make Coding, Meanwell off Keep account, See what get time to do — first of all Engineering job now in progress & those wanted

Enter into book Kept by Bliss Mann & checks off Meanwell keep the posts weekly

Take old Howard rig up
internal buffing gathered see
can beef moves without
working fingers — do
spun records not stick —

Mendenhall get Curran
book & stand. Curran book
year & this all Co. orders
can't tele
pay rolls & bills paid 3 Curran
& individual orders order shipments

Fred Oll spun a 4 inch Mordam
with Ogleton see if its
stand more dropping
on table then without
Mordam — try paper
fibre —

Dyer — How get survey Industrial
people in 2 or 3 immediately
& on any patent possible to
put them to operations
& agency —

See Legal Dept in re segment worm
feed on desc make my old
English put fibre later desc
patents —

See if can Hardin the feed
segment to funnel near the
end to get rid of spring —
make better feed —

Ask Smith details Green done
with the 4 feed mechanism —

Rogers in Engineering dept
for battery.

Divide, Engineering dept into
Battery - Plants & Storage
Motors, rectifiers,
Kinetograph
phonograph
Miscellaneous
Other depts Engr + 1 or 2 draftsmen
& chief power man

When Fred & Polly got
record OK - make 6 heads
& other devices & mfr

Edgar told Wendell
Lauridsen meet in Boston
NG - He ordered Grand
Electric 3 Trix -

Lauridsen send arrange
Catalogue all Lighting
Stations - Crosley DC
Station got several
Trucks -

Specs for
Irradiation Electrical Theory
& problems of Universe
by Jungkemann London
Griffin & Co 1912, just out

Don't forget Kisselghur

Archer make - 4 1/4 Liber
with Reg flake 12 1/2 Bro
621 green -

Cut at 5 Bat flake
20 25 30 40 & 50 %
less area for small
tube Ingots -

Bliss - Canvas small meadow
lack economy. No log get him
to go high on mows hence
6 poles batter him 4 & better -
still only least speed unexplained.

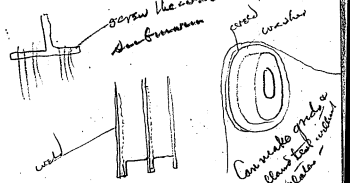
Find out from Al Wyeth how
long since he got Meadow
from Wallace Miller he can
have Matrix - unexplained

Boston man ordered baby
coated week wrote
debut answer 3 days
then said do not cover
waited month -
Cancelled order
but found does not show
Whole name Hart -

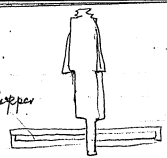
Repair system at works 1
man - Keep log book -
Bee complains delay filling collars

Get Dyer cutting from Jim
Company -

The Rubber bulbs for top
battery not elastic enough
to suck - Too soft rubber



Layout for 100 cells. ordered
of 204 -



Make out last shape for McCoy

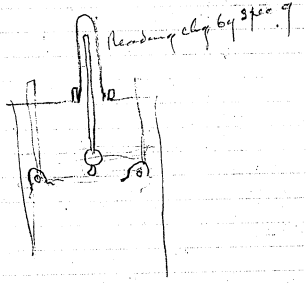
Cost 1000 tons 1 mile

Coal	.1862
Water	.0076
Oil	.0026
Repairs	.1087
Renewals	.0033
Eng House	.0268
Engr + Fireman	.0928
supplies	.0025
	.4297

.429 of 1 mill

Dyer about buying the gas indicator for Gallery #

Rubber sponge or glass to wipe Roll off top of cells in place of the Rubber one -



get Werrell Graham 2 Violin flute Clarionet, Viola possibly cornet -
perhaps Proctor Orchestra
830 Tell 12

Nernst burner in place of flame for phono, dulls platinum

Play No 2 bass slow & quick learning records on No 2 Reader

Try No 2 on Triumph to see if loosens in embrasure

Cut a to call in No 1 & see if make the speaker –

Bias – dispense with type writer, if can't anything done get it done by H Miller –

Run of disc material roll out water cylinder shape to press

Squent what dies –

Try Paul Schoenhend & Shellac

Q WA How you tried Dr Lachlan Hopkins Compds from distillery Dr Lachlan Hopkins No 320 Distills for above Gauny Pt of Arg – undecomposed

Methylene acetate volumetrical
added gives off formaldehyde

Put Dally on perfectly
the walls fetter it
slope over it Itself is
poor —

Put loud record on
gramophone - + map out
by ear areas of
Equal loudness -
to get a line on
predicting the sounds
of orchestra

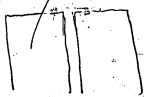
perhaps its the side
throw of the belt a coarse
centers that moves
off the top of the walls
by a quick side movement

Have 1/2 day records
spoil not learned
Fred gave out Cold

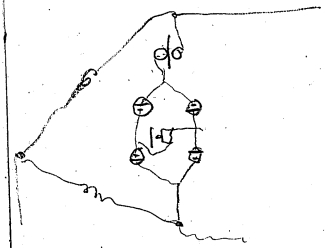
Have pictures been
taken out on little
film itself —
also optical
pyrometer & all
other details

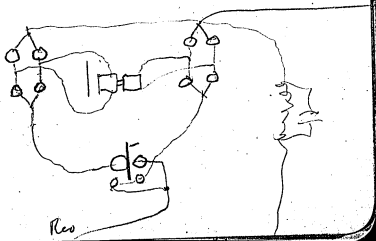
See if threads are not
Drunken on floor - or not
Kept up to one face of fast nut
or End thread centrine -
or records not reamed
Central so it wabbles
records one end out one way
other end the opposite

Set up speaker at an
angle to fall in direction
of motion, not a little
to give it a bias -



Return the US Condensers parts
at House -





Chalk Telefone, I now remember we wet the Chalk before pressing
Try chalk wet with ROH
Also (18) $SrCO_3$ – also try
washing with Hg
which we used, never
heard it as hard as it
needs — also $SrCO_3$ + a/c of
Cobbold. Try infusorial earth
+ acid washed ROH.

Devices
Get for me Author + Matter
by Larmor
also Mayo pleasure nature by Huxley

If don't get the spots on Triumph
get in paper make second
Run out
Also an old ~~[illegible]~~ [illegible] with
ROH thread to guy it [illegible] speed

Scull – Pantheon out. offer on
one side not both sides, one
room for prowler, all other open

Stop Copper salts going on
Condenser — is also dissolved
need — Coloring in flake
dissolving on floors
What are old cases full
plates + ROH doing on floor
Send plates in ~~[illegible]~~ to Lake.

Quote Get Dolan's source scrap
sheet lead to dissolve
+ Eliminate Copper
Chemistry

Mike McCoy's lead out

Scull
6 men pushing out
office

McCoy
Sloan & Chase
Crocker & Crocker
Sprague Co
Wesley Corner at Newark
Hoza & Co
Winchester Arms Co
Garvin Machine Co
Bliss Co
Plainfield 2 Concerns
Weston Co.

See if have extra Walker for disc to put up as trial model

Bliss 3 Concerns
with Rec in Delaware
Lackawanna

Premium play hard pears
record on air —
for flame or disc

Fisher design a wholetone
of small cells down to 1 tube —
also for running lamps

Experiment on sound Regulator

Weber to give Fred with a man
who is to learn the new process

Order Drip of Petals Coating
Machine —

Order, 6 - Hydraulic
presses + repairs —

Order Moulds for use on
spinning Eugolds' Mould
of Montana or small aperture
Dorhaor it

See Weber about giving me a model Capacitor to fit my circuits.

	gutsden			
638	500 g	Nitrogen Lab.	7243	14 days
637	520 g	" "	7560	21 days
634	530 g	" "	7896	27 days

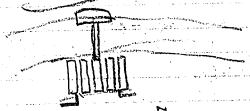
Stanley Dawson

Bring down the US Gets Condenser Co -

Have 3 patents Electrolytic & Lac also Dendrostatical -

Patent Compositor record

Dyes = Copies of Bakeland patents to Brandow + have my and mann to French Gail coffee & get other from to impregnated board patents -



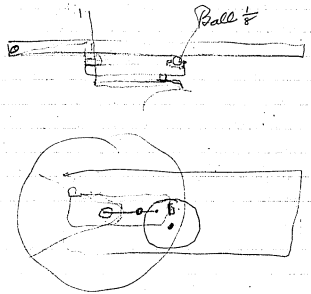
Dyes -
Volatile spring mud dont stay d

Start man finding Selenid for Copper for flake.
Try Cyanamide - Hydrometholenetetramine

Goldstein Make source 1/2 1 1 1/2 2 3 5 to regular drum also add to Hole drum 3 or 5 %.

Angels serenade, over the hills to the poor house
✓ Swanee River — Robin Adair
✓ Old Folks at Home — Coming Through the Rye ✓
✓ Home Sweet Home — Old Black Joe
✓ Wait Mingus — Nellie Gray
✓ Ava Maria — Warm in the Cold Cold Ground
Tenting Tonight — Where do my wonder boy tonight ✓
Rosary — Nearer Thee
My Sambo, I have sighted from Travelers
Cunnyslaw Tannahaus, Lady Fair
Go over see the boys in Crook
for film playing — get one
Exeunt!

J Collins Clancy
Cyanamide —
gold — Read before
Quick — Electrocution see
when the swallows homeward fly
Listen to the Mocking Bird
Last Rose of Summer
Kathleen Mavourneen
Juniata — Hunts Bowers Down



Goldstein Ow in B.S. —
Careful —

~~Dyer — about Cronin —
also working up film trade
in all Columbia ~~

Hurry up boating not tends a round
Reg to Silver Lake,

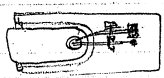
Songs Come back to Erin
Darling Nelly Gray
Goodnight - Farewell -
Heart Bowed down -
How Far art thou
I cannot sing the old songs
Kilflarney
Kathleen Mavourneen
Life on the Ocean deep
Oh Fair Dove O Fair Dove
Some day - good -
Angels Serenade by Braga

as soon as Brenley gets a
vacant on plating - get a dress
field sizes - make a lead a reason
a pattern the several ways of
plating & removing -

Wun qua Kellyprees
Masks into tubs have a
bad back they cannot
correct it,

Shave off some Moulan 4
min just a little see if
all run out same or if
Have all something in
Common -

See Weber about
Changing top of Cabinet



Put this in

In No 1 put in 8 4 6 + 10 Ohm

See How many tubes boy can do per day also other boy in putting up cells + put it in chg of small lead room. Man he lik ah aftan I + hustle tubes through 5 can send Looking Kept to a Group

Ask if Hard Rubber parts were reused several months ago + if they now have been reduced —

Cost 100 cells
production 1400 weekly

	Material	Labor	Misc	Labor+material
Metal parts in rough	40.95	194 52		235 44
Rubber parts	77 79	8.08		85 87
Flake labor 50/56 lb				
50 lbs 1.19 cts	59.50	25.13		84.66
Nickel hydrox 55 lb	159 58	.70		160 28
Iron Mix	89 31	0		89 31
Nickel Plating	1.53	11.83		13 36
Trayo labor 18		12.09		
Sundry " 9.56				
300 5 1" wood screw		.09		
Water		.15		
Dry Lithia 13 1/2 Kilo 96 1/4 c		12 75		
140 Litia 21 KOH +		11 20		36 28
50 gm LiOH. at 08				06
100 256 1/4 mac screw				
	465.00	250 00		715.00

General Expense per cell —

	Labor	Material
Rent $7240.00		.10
Electric Ct 21000 KWH		.39
Water gas steam		11
Foremen 10	.20	
Watchman, sweeper, Elevator		
general repair gang	.15	
Inspectors 38 men	.33	
Factory supplies, oil waste, benzine, screws, drills, emery wheels, crucible + lab chemicals		.19

Carried forward		
Repairs, replacements to plant + equipment 35 — 83.	.45	
Repairs, replacements, materials machinery + tool steel, casting, setting, pipe fittings, elec supplies		.08
Executive + Engineering offices + Sales Dept Salaries	.48	
Executive + Engg offices sales dept supplies + Expenses		.16
	1.61	1.03.

Total 2.64
Lab & M 7.15
9.79

Weber - make up records
no rebo - ditto Lore from hacker
cold record to Chuck Cake (Fred) all

See Grove tell him about Backland
electrical Heat is yes: Lat + Chas
factals in office look of he how
supplied for his factal if not to
rush it,

~~Have men try 2½ oz Dia~~
~~ditto 2 oz ditto 1¾ oz~~
~~ditto 1½ oz = to see Limit~~
~~in Case wgh bad +~~

3 03 drag

Try press Lead on record
then harden with Sulphur
Try Tin + oxidize by chemo
+ Oxygen dry

Try slaked lime pressed on record then treat with Na_2SiO_3

Make a jelly of Portland Cement decant & filter out jelly put on record to set.

See if Dry hydrated Silica & dry slaked lime pressed in hydrate will combine, if not try heat, ditto Silica & Al_2O_3 hydrate.

Edison - works out patent. $Mn(OH)_2$ slow drying - with all stuff in some can be sealed out not necessary
Ditto 1% Cobalt,

Legal dept come up &
study over model
discs

Try Hydrofluoric for mica Cement, Try Water glass.

Try tra[illegible]ength, Try hot KOH - NaOH, phosphoric acid

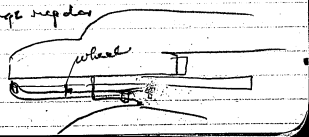
Try Celluloid 6 6 6 use acetone & acetic amyl to put together roughly -

Find out when Solution got the deep dishes to Check when good capacity tubes started

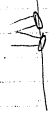
Try some of Bally's moulds Cracks shrunk out def ways for running true. Try chill out quick - also one end only chilled then the other

Get a mould & Experiment up stairs to bring out a true record

Change sapphire



Set the angle of the button different by both wings possibly angle makes it climb

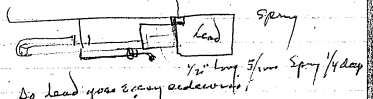


Try some 70 Records not graduated possibly it slips over -

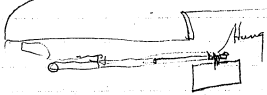
~~Webber how do you know the reamer is true with the mould - every one runs out [illegible]~~

~~Mendocroft pick me out 3 sentimental songs each of each of our singers oldest guess you also Select want to judge of these voices -~~

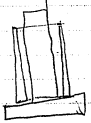
Check Dolly little levers Extra -



So lever goes easy sidewards



So easy sidemovement



See if this in warm place will heat up

Try hardest cullanderend need bound
proper - build up like mian —
Sylne or Sevalana,

In pressing Compositio seconds
get better than 150 so outside
surface be welded + nail
flake off : also to reflow
Ultatan so it will not (or)
shrinkage when not finish
nuff & thus require it -
Cause of Cracking of made
Cylinder think still Contract
too much not well handing
40% Chalk think paper
fibre or Cotton flock 5%
Better -

Try Lampblock in Ultralac
see if get it black & finest no
good

Gunshown about a lighter
wagon - Simple sight

Buy a buggy - fit it up for 6 months
+ 150 Records, oilcloth covers

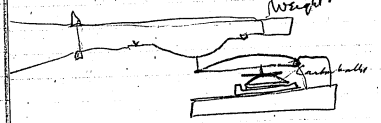
Breakers - get medical chaos +
Crime by Baumsby

Goldstein Try make Kg dope
in iron pot,

Weber = Wedded streaks -
Letters product Contractions -
inner thread wrong
one shaved to on end
if about been to crack round when almost on
Chillers in reason
Mould spoil in making not
round Calliper done -
put smooth pad in 4 more to
see if lettering holds -
ask do wheelbones the loads
running more from window

Watts Miller Walter piccolo
or flute, broken up in action
leg along high notes, try
lower out three high notes
instrumental in accompaniments

Dyer, Saunders built a 5 ton truck not well liked only orders were given only to build 1 & 2 ton — did he build 4 on orders



Take some Reg green ready to load, dry it 2 & 4 6 & 10 days then make test tubes 180 about on Kemper Lamp used by Goldstein

R Abrogast let 2013, pans dry wise chatenes test

Goldstein patent No 520 of which 10 is 1/10th equivalent dry one half

Edison drawing of patent 2 Recorder on disc

each recorder has 75 & they are made by side

Two rooms, seperated, but Wagner see through door, seperate funnels for each recorder. Base & strong music played to one recorder & strength & weak instruments to the other — both records reproduced by 2 Reproducers & funnel — This prevents strong instruments from disturbing the weak ones

Draw out Cabinet, Converter

Put up 3 Bu Cells
run 3 times Reg
put on half 6 Cells
then test & so on
& times push to
see if working
improves

Looking Clancy advt
in Elec Chemicals
& wants him to answer
me —

Clancy Process
address:
Moots Filter Co
170 Broadway
NY

Blue Gas
Sal
Ferrot Chemical mfg Lucamblock
with Tetra Chem Lac
& see if ~~Oil~~ ~~or~~ Mr Allen cabon
see if any of Mr Allen's digs cabon Tetra

Digs smooth to give me
a list of appliances on
Disc Sustained Ele

See if film of Wa stuff from
Leguna well performed and
Mountain be demanded —
Petit pressure

Tell Lee Mi or Leat or
Carbon Electrodes & al.
in Quad

Walter Mitchi & Worth
our records should start with
March on the smooth place

found when RA - slow dry samples
got to Lab -

Silver Lake Office -

Manager,	125
Chemist	200
Bookeeper	88
Asst Bookeeper	56
Asst " "	64
1 Boy	16
Asst Chemist	88
Asst "	64
Assist "	28
Assist "	32
	761

86 men

5 men in Office -

analyzer Na - KOH.
Lost now
Sampler -

1 Foreman works	75
1 assist works -	75
1 "	75
1 "	68
1 Machinist	80
1 pipefitter	78
1 Carpenter	104
1 Watchman	55
1 Engineer	55
1 Eng	60
1 fireman	52
1 "	52

86
31
55

1 Truckman	52
1 Storeroom shipping	80
1 " Boy -	26
1 Helper for pipefitter	64
1 Helper to Machinist	52
1 Repairman nights	62
1 yardman,	65
1 " helpers	42
1 " "	42
1 "	39
1 "	39
1 "	39

30 - non producers 602
56 producers - 761
829
2192, month
160
2292

Dryfirmum

1974 now
2494 Producers

44% unemployed

9

Monthly output ...

Ni Oxd	14 1/4	Tons
Zn Oxd.	12	Tons
Solid.	4	Tons
Anodes	8	Tons
	38 1/4	

Battery Pay Roll January 21 –

		men
Ex + Engg offs + sale dept	1490	63
Mfg	4945	439
Tool.	1010	58
Testing -	229	19
Miscellaneous	353	22
	8029	601
S Lake	1117	86
Lab	2499 -	118

Have Dally ~~[illegible]~~ go over + see if they have the old water separating plant or machine not used if so bring over + set up to separate S Lake from Cobalt + Iron

When Washers ready
Have Smith make 1/4 holes
to test with the 1 Hole 14
day green - Several test
Cells for long Endurance
test =

Have Goldstein make
large batch of 1 Hole
14 day green for
A & Cells for Smith's Washers

2 tubes Reg No after boiling
Soak K Hypochlorite
4 days

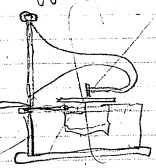
Dup 671 Goldstein

See if Gary got the dried
Wood + also heated tubes
in

Call Walter Miller
Attention to the jump outs
on low record of moved
water forced in about tube
OK Evan

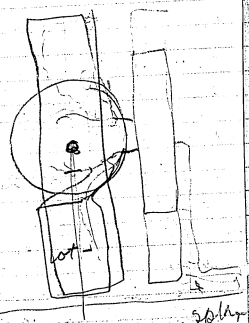
Bring up the acid
Mercia

See Wind if she knows
anybody who swings by
water off hand =



Rod - Chang Washer

Iron $LiCO_3$ last 3 weeks



fence prevent pop spills
on slowing molds

Experiment with dropped
a bright cell with
Warm water spot rate
Cooling

175. grams Total dope
A4 cell tray + all

Saturday NOY model
best —

Add to the proposed
Bulley Adv
If you are dissatisfied
with the [illegible] of your
Electric [illegible] Etc etc

get list of Waverly
Buker business
Vehicles having
Leased Cars &
go for owners to
Change to ours

Design a new uniform
format for reader with
heavy list on center -

See if Reader runs on
smooth & not towards
rear of Costers are
made shorter on left
side -
possibly can tilt Machine back

Ask Bas how may Electric
Sloane & Co have & how
have better there

Put No of Model on
Grand phone model -
Later No & Number less now
Punched reinforcing check
for Cabinet

clock not removed
is in market -

Dip thick all over the
Copper dish with both
Kinds of Condensate
dry at 212 lamp
then put 24 & try in
clean sulfate Cu 3 d
125 for plating over

1 mch Column $2.50 –
average –
Add abt 4" — $1.10 mscellan

Sat Eve post $.84 mch once

Mummery $.31 mch once
R of R $.16 mch — better than Mum
Life $.14 mch

get drum for Bal
Co, Coat, condensate.

~~Brady get 1/16" sheet rubber for splsrs~~

Put up 2 Cells + put fresh
precipitated NiOH in 2 pots
to take care of Si + Al_2O_3

Double dip –
Dip a battery Can in
Condensate + dry 24 hours
then put in a Cake at 240
to Condense, –

What become of Carbonized
Moulds for Cakes

Scull – see that the 50 cells
ruined from repairs are
paid for at our fault

See about dies for Crates

see condition of Alloys
for Tetradip – hurry them up

See Brady about flock

see if brown or red charcoal
is attacked KOH first
Could preliminary wash
dip in Condensate + rinse in Battery

For Surface Rubber in Battery
Powdered Coke very fine in
Condensers as binder-dried
slowly & then heated,
better Charcoal used or
~~Graphite~~ Sugar Carbon
not carried far enough to
conduct, also MgO.

Chlorine ~~Make 15 gram~~
~~NaOH dry in hydrat for~~
~~lost in Tube~~

Patent new opts - wooden
arm - (think got this) and
Celluloid - 1/16 to 1/8
Uncle - Zinc Celluloid -
Patent Soldering funnel by
mudge -
Patent Cooling device -
Removable back to Horn -
Universal joint on opts

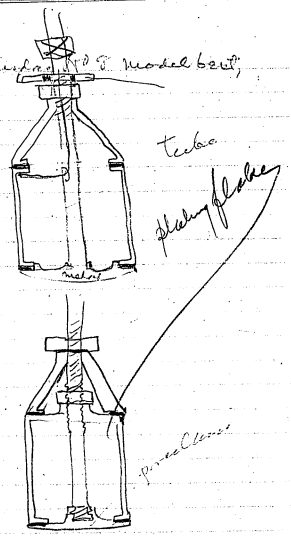
friction on Horn
Weight for screw feed adjustable -
Closed front - Handle &
lock to handle -

Patent
Small reach - Swing funnel
& feed, left,

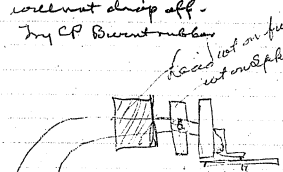
Old tubes to regenerate back
in Salts which tends to form
double salts with Fe. Al_2O_3
Si etc & not Ni -

Did RA ever reduce a whole
Fe plate, if not have ~~Fe~~ a
dozen reduced & put up
in a cell, V

Mix taken with Condensate
Liquid of Sol Fog also
Lac & Carbonate in it



Put Tetraalcope on burner then
will not drop off.
Try CP Burnt rubber



Put polished
Wood 60 41 bottle
see format

Greenly get old Crock + drum
App + let up to Experimental
with new drum — also Condensah
+ process so sheets never stick
also a sectional Cylinder rubber
jacket, for trial —

Write or see Walter Mullen
about side motions,
Study side motion on new
Mulns records +

Tell Mann to Cut out from
1/16 sheet Ring for 4" Reels,
Also see if Eng. ordered
1/16 solid rubber from Combs
Rubber Co —

Greenly try Expt of graphite
on drum, coated dope + graphite
Cu on + then going ahead
depositing flake sheet
~~[illegible]~~

Ram use a metal drum a shiek
1/4 wide removes wax to get contact
with,

Tell Bradum about
Asphalting over concrete in
flake plant, Reg Asphaltum
do it,

Record the 2 bad notes
on Wax dark record
+ see if Cant detect
bad spots in the Extra
Round and what it is
on use white wax +
graphite it —

Removably Consider thin
drums, dopes, use de Condensate

Smoke a part of record
+ see if it cracked or
Try Chl Eth vapors
also paint over with
Negrosin in alcohol or
Aniline Red —

Roll a splint of Cake
Iron rolls see if it lengthens
also if separates — also if
it separates with Solution
Could plate lurce on thinket +
Roll out to lurce length —

Get new Book

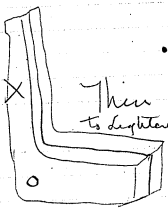
Write abt differential —

Pierman record Melas
on white wax + graphite
for record — Strong + also

Wetter Wells Make 10"
also 12 inch cracked but
no sound for lab blank —

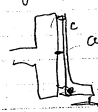
put link or Kupferlack
between wood core
& diaphr as cement
Can up to bottom of
Blond drawers +
get table dos record
level up Case —

Omnibupum Molar. Lampblack
alcohol tick very fine add aniline
Violet for leaking dives —
Try $Sr CO_3$ also —



Then it so as
to depletion but in
way shown

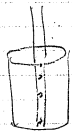
also make Scrawl + weakend
X to get spring there



also this
Throw comes in C

Try Alcohol Shellac Lampblack
" Rosin " "
" Violet + Lac —

Scrawa strip on drum



Then cut on
strip —

[ITEM FOUND IN BOOK]

SB Oct

Cost cell (A4) L+M & face Expense	10 410
Selling, shipping & free goods	1 185 60
Admy	1 326 40
Administration & Genl Ex	607 40
Rent Taxes & Ins	108 7.20
Bond interest	401 27.00
Cash Dis	132 8.00
	14.169
Received for sales	11 180
Loss —	3.00

Cells sold 6225 ½

Total loss 18 676 50

Addition to plant 7.262 47

See about another place to rent from Lumsden, Dudwr Bell Barco fac Newark & Dyer of the Sain Adam Ex & Genl Elec

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]

Meadowcraft - go out to Leggat
& hunt around for very old
books containing songs, rimes, musical
music - pub in any language
dist & periods

Meadowcraft Analyze Office
Expenses all the factories
also production & non production
Sales dept - Expenses to sales

Get Office payroll &
works payroll S B Co.

Lets hear from Ackerman & Gross

Get a machine for
Al Wurth to test
masters on

[ITEM FOUND IN BOOK]

Edison - Sketch out
#35. machine Horseless
carriage horse motor
outside of in Corner -
E do it roughly -

See Progress for Subway
(1C) see Holland bee of OK
to make tools also
have plates put in to
see if OK -

Start

If you could copy take carriage and
Electric Vehicle Inventing the
Edison storage for To drive it
This battery ~~[illegible]~~ is
more than the ordinary lead
battery but the life is several
times greater and therefore much change
in the end, it requires less attention
and gives twice the mileage
For Calculations address
ESB Co - Orange N.J.

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]

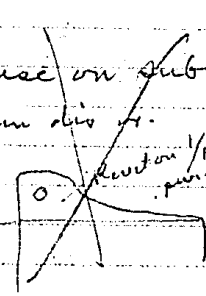
Dyer, Cromelin - England

G V M - We could spare the Glasomelar at Battery works

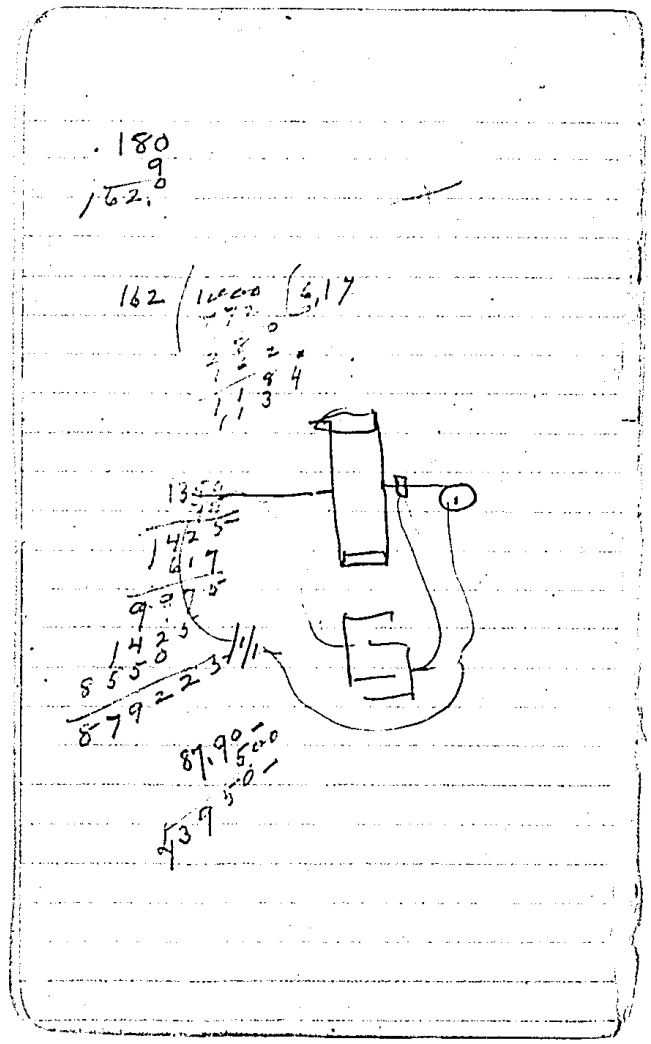
Instead burning Dry Charcoal also Cotton gas & fire. Spongy Cork

Show me Cheap the advt & get prices, N.Y. CH Boston Rochester, Cleveland Detroit Denver Los Angeles San Francisco Seattle Buffalo Canada Washington...

Hutch - fuse on submarine Cell to 15 mm dia x 30 mm



[ITEM FOUND IN BOOK]



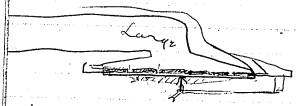
Notebook, PN-10-00-00.2

This undated pocket notebook was used by Edison, probably during 1910 and 1911 and possibly as late as 1912. Several entries may have been made in August 1911, while Edison traveled in Europe with members of his family. The book contains notes and drawings regarding experimental work and other tasks to be performed at the laboratory. Many of the experiments relate to improvements in storage batteries, phonographs, and phonograph records. Other entries pertain to Edison's kinetophone, concrete cabinets for phonographs, educational films, and stereoscopic effects and color photography for motion pictures. Among the employees mentioned in connection with individual experiments are Ralph Arbogast, Jonas W. Aylsworth, Pursell Eggleston, Ignacy Goldstein, Walter E. Holland, Miller Reese Hutchison, and Alexander N. Pierman. The battery-related entries include notes on the composition and performance of cells and a list of sixty-nine items, entitled "uses for battery," describing applications in electric vehicles, tricycles, and submarines; in automobile and home lighting; in sailing vessels, with windmill power; and in other devices such as miners' lamps, burglar alarms, and dentist drills. Also included are entries pertaining to the manufacture of nickel hydroxide and to clutch devices for trucks. In addition, there are plans for making phonograph records out of condensite, shellac, hard rubber, and celluloid; proposals for recording popular songs and the sounds of naval gunnery; and ideas about marketing phonograph records. Among the individuals mentioned in relation to Edison's business affairs are Henry H. Harjes in Paris; Etienne de Fodor in Budapest; and his European representatives, Paul H. Cromelin, Maurice E. Fox, Thomas Graf, and John F. Monnot. There are also entries pertaining to personal and family matters, including references to the estate of John Kruesi and a draft telegram, probably to Edison's daughter, Marion Edison Oeser, regarding a rendezvous with his son-in-law, Oscar Oeser, in Switzerland. The front flyleaf bears a list of famous Frenchmen and a list of French cities. The pages are unnumbered. Approximately 140 pages have been used.

Paris - Costina Dolmitz
Dijon
Geneva Poblach -
Evian
Interlaken Klagenfurth
Lucerne
Ragaz
Feldkirch
Landeck
Meran
Bozen

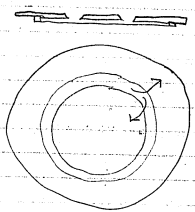
Nantes - St Cars Enclosed
~~an Engine Eller sleeper or air - quite considerable.~~
~~8@10% - pleasure -~~

Mrs Kreuzi Lausanne is short of money & needs to have the settlement of the Estate Carried out as soon as possible. When get back write urgent to hurry up —

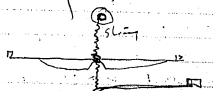


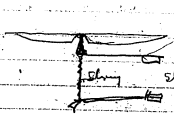
Think that air space should only be .003. — the regular wave would go too much sideway to the wave but by using a plate with holes so wave only goes into the .003 space about 1/8 inch this resonance would be small (so) the fall of pressure little & great compression would be given dia — also the amplitude would be less for large waves running to high compression but not for weak waves. Possibly to have on both sides

or



For recording paper paper dia with cork





Stereoscopic effect

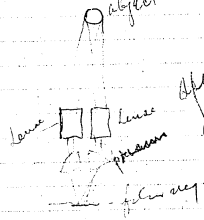
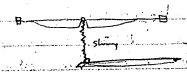
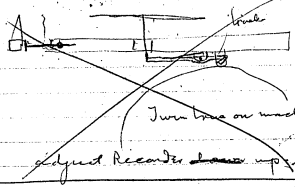


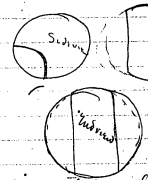
photo to show overlapping and both sides will long

Precip $Ni(OH)_2$ + dry H_2O out by heating in fumes acid etc.

Make flake 1/4 Co 3/4 Ni —







Cam track deep + slide and bull offset

Looks as if proper duplicate to work on Pathes is 10/1000 wide 8/1000 Cutter double speed + a special way to cut very deep + highly sensitive Records without or little fog. Lateral off

despair — made our chemistry retirement Repeat very soft long string + light lamp.

Try wafers dip wood with
Carb Stronties etc for deep
Cut – possibly acid Stearate
Stronties & deep by CO_2

also make layer like Mica
Wax – one kind of wax on ~
Soloent dip this then dry
then another wax on another
Soloent that the 1st wax
wont dis-slow ~
These layers should be only
1/10 of 1/1000, hence no
Chipping possible
Even with very deep
Tracking

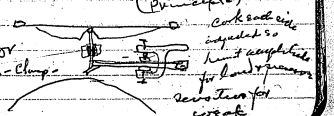
Ring up a strength cylinder
& test cylinder self-Rinse
Simply for necessary depth
of tracking with an 8/100
Rings

Should I get Piano lay very sensitive
Recorder & deep tracking advantage
should not be taken of it to
get Corrupted Loudness but
lower made minus leverage
so it will be no louder
than Piano on disk now –

~~Try Stearate Soda powder~~
~~Stearate & Carb Soda or K~~
~~Thus~~

Use Stearate Strontia &
Carb K or Na – thus
make Carb Sr & Stearate
K or Na & have some
free Stearic in –

(principle)



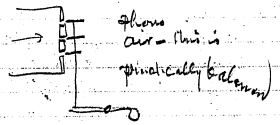
2 arcs series →
5 Batt. to replace Rec –
present dirty pans
Send Cabinet disk to Fodor

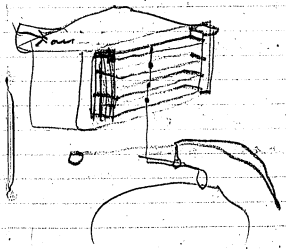
Present Valentine Chem Lounder
& Gyphono

Get all Windmill Catalogues
Books on Wind Mills etc
Ball bearings – Dynamos &
Storage for Charging Wind
farms etc gang mills
get Larger batteries, ~~[illegible]~~

Mond and Fodor Bank
book loans

Dyer about selecting some
abandoned Elec app like
fans (Mfg, put dist higher &
give bigger discounts –
to dumbell our Grand Ep





Look in other parts of book for little wagon Change process

Concrete Furniture Co —

Try 4X6 Dopes in Concrete

get from Bumpus rate of Maintenance Index & price charged —

Dyes — Burgess Mfg co selling Dyes for less

See if possible make flake by reversing for a second or racking out of Dal in O or HS — get rid of Copper

EA
Send Valentine Boz Nuss
Aswan Egypt
11 Rue Scribe

Go on a campaign of work up the Sulfate St Vital gave 300 cc N & the others, probably form persulfates for them it is probably a non conductor hence, lots of current will be necessary of flake — If it dont work old process graffite might go —

~~Try graft~~ Try graffite Nuxen 1/8 tube

Try graffite Nuxen 1/8 tube

Take up forming group
garages for Car Lighting
Rent, get good man to
form it + run it

Soak drug Quinent
articles in 6-4 or
bake see how stands
Cannot for pasteurization —

Start Campaign on
making No 1 Dry Rolls
thus drying - under pressure
etc, slow + fast + low
Start — Keep family
at 72 by Electric

Perhaps reason Bi doesn't
work well in large cells
is due to some katalytic
impurity in KOH, Run it
down — ~~in large~~
Purify Cell that co air
of A + H works OK

in large cell not
strong — try Chloride
Flo

Subscribe all school publications — Have Byron Kuntz exhibit all meetings with good Demo Educational pictures —

Hire more travellers etc on basis of make good in 2 months or go —

Look up Conch + Kelvinator availability of 2 motor worm gear change speed at no difficulties for Byron wagon

Try Experiments on Nickel plated strip, ~~to take~~ + do Strengthen KOH with Fe Pkts to Coat Strip with Fe + then find a solvent also also Strips + Tubes to brighten — Quite sure deterioration is due to Fe — H at KOH dissolves more if it leaves green bad quicker half also 33% does more + that is bad —

Its an Iron propeller —

In designing new series Single Cylinder plumes see if worm gear good — only use 200 thread — make large enough for 3" + 6" long for ~~the~~ fitting — good good + new desk spikes

Study new vibratory transformer
see if it can go to high
amperage — safety fuses —
2 or 3 vibrator devices
Try def Carbons make
Quadrupel panels for test

Try in cell for making
Fe by current a heavy
hydrocarbon Che at
bottom for Fe to fall
into to protect
against oxidation
High temperature to
Roll to roll heat
Revolving polished
Ni drum with
Dropper —
Mix of Zn & Fe Sulfate
weak —

Redver Fe w very weak
sol by Zn —
also in Electric Rolled
use big magnet
to draw Fe down into
the Hydrochloro —

Possibly polished Electrode
be surrounded with a
bag then which the
weak sol slowly
percolates, will be best
Also with the Zinc

Reduce Mercury Fe Sol
on plates semi dry
Mercury

Fe Sol ably should have another salt to combine & give tols hydrogen possibly a cyanide would work —

With Bismuth. It looks as if what was wanted is to make Bi OH more soluble in KOH. — Lott,

Perhaps the sulfate like Strontium etc ~~which gives Fe(OH)3 ppt~~ will work fine with 15 or 20% Cobalt. Also Bismuth to give conductivity

Try Iron with 10, 20 & 30% Cobalt — both will reduce to metal ~~but~~ & even the chg & discharge curves = Co reduced 1st & acts as ~~conductor~~ or Fe & is oxidized last + acts as conductor

Beg sure try 4 & 6 for filaments

Try nickel Fe & mix of Cadmium + Cobalt 1/2 & 1/2 & vary

Use weak KOH 2nd. Use 25% KOH

Magnesium tube Magnesium flake Lined with Zinc Reduced by H, or Zn powder or use pockets, Try with Minimum KOH, so very little Zn can dissolve — for a boost battery — Even the pockets would be large enough to hold off.

Particle size reason part of Condensate of pitch ok in 100 & others no is because not thoroughly Condensed probably should be baked many hours — to stop shrinkage stressed issue 75% of Condensate powder already Condensed highly Trials work with Hard Rubber — fetta truck 2 lo

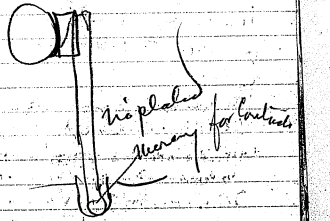
See if RA has reduced the crow mostly on Rolls — & How it worked

Try tubes with Borate Lime Strontia + Barytia with flake to see if gives Reversed like Sulphate + details Na & K Sulphate which are used also Carbonate Br Bart Ca —

Phono — Glass para cylinder Coat with Condensate Varnish bake & then press

Experiment with Rosin + Paper pulp for Center of disc to cheapen — also Asphalt, also Kauri — Manila copal Lac — etc,

Vitrolac Redfi



Use NaOH with Zn powder in tubes Dept and it dissolves Zn less — also try LiOH & NaOH

Truck wheel tires street paving wood block

In plating sponge 7a
Try graphite electrodes
no stirring —

Marble pressed chalk.
+ Condensate liquid, just damp
dried + pressed [illegible] quicklime
+ condensed + sweet bounds
Ammonia tile, various
Colors vanquished
Rosin mixed do & Tos

Broken Rosin
No contact

Try sulfide iron used to make H_2S, see if House will give H_2S & hydrate methane 7a

Bees Inspection sell good
Reorganize Sales dept Bat Co
& pushmore,

see if increasing the NaOH in dech dump — 1/8 tubes cell work, to increase capacity of loading — possibly 50% more can go — thus also adding flake

Try in 1/4 & 1/8 tubes
Continuous feed of NaOH flake + very rapid tamp

Try for 7a non nickel plated steel — also (good) Cobalt plated steel for 7a plating

Try the Copper wheel for Electrowelding Can seams.

Look up the idea of putting 2 lectures in 1 Can as exposed by Smith that Kennedy discovered -

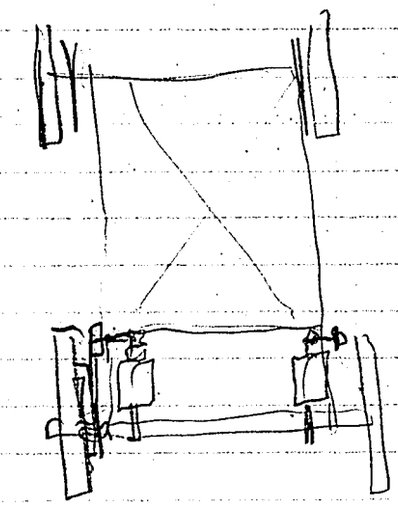
Somebody see the Gasoline Engine Fire Engine & see if they will build an Electric -

Act delivery lecture to School lecture & School Curriculum showing Bryan Kinetograph

Kinetophone - producing a Lecture on scientific subjects illustrated by Experiments + also

other lectures for the Lecture Bureaus

See if Orr's for dress I designed worked OK -



2 Motors 14 miles in Multiple - 6 miles

2 Motors in series

Worm gear drive

No differential -

1/2 the power - slipped to a change gear by mistake -

Regenerate timber, Reverse the Current in very weak KOH, Soak out & then use Peroxide or Chromic water or Reverse & chlor put in 2nd Soak out put in weak K.C.P. & make it anode to turn the Fe into Chloride Iron & Soak out.

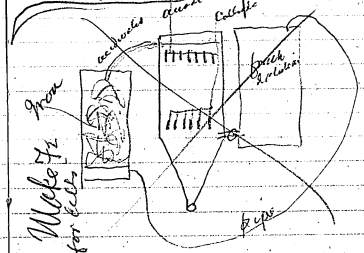
3rd Soak out get rid water by using alcohol then varnish in Oil containing Benzine chloride & Chloride Zinc Fe red wood & soak out,

Possibly a very high density necessary to get it out in flake & not too much on tooth =

Get some official Ne Sulfid Compound Sol in KOH made by Jwa =

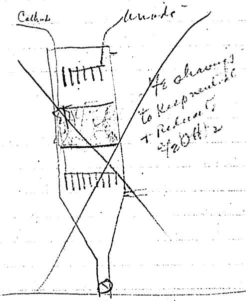
go up to Port Oram in auto see Kelly if he can make healthy slag for Concrete Fabricate found on California of there —

On a change gear of Byron Crucks a positive Clutch Can be used if the pin is connected & thrust in spring off long Headedly to stop shock & heavy stress



For compressing light loading wt
NiO(H), try drop press of 2" x 1/4
after pressing & heavy hammer
2 blows - test gives enormous pressure

Fe —



Try 33% $Ni(OH)_2$ +
66% $SrSO_4$

Carbonize filaments in Redhot $LiCl_2$

In change gear for Bijou Lunch
use positive clutch & fix it
so change can't be made
to low or high without stopping
motor (IE) vehicle —

If spiral or worm gearing
used it can run all the
time in change gear
as there would be no
noise —

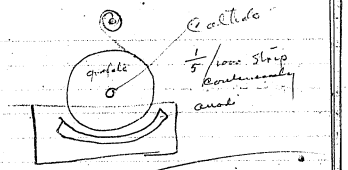
Have we a big Cell A4 on Endurance
test with 27% KOH
if not put 2 on test

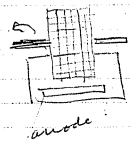
Perhaps a little 10% of Sulfate Strychnine precipitated with the MnO4 will do good also with 1 B 5 + 10% Cobalt,

Make 1/2 doz 1/16 tubes no flake put in one grid + test also
Some tubes with 10 + 25% Cobalt in MnO4

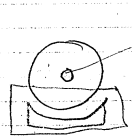
Possibly the nickel powders by Electrolysis from a weak $MnSO_4$ could be used instead flake,

~~When Hydrolysis gets time try make flakes with,~~





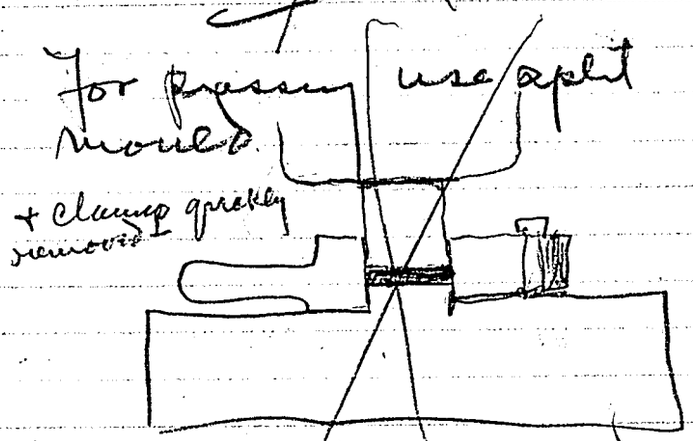
Then as metal wheel with insulated surface squeezes - the surface of the metal so with the metal it cracks which that it cracks & leaves it so by wiped off as flakes —



Try smooth wheel problem it comes to and do something to surface so next turn will not stick cut flakes capable to separate

I think no matter how low loading wt that drop press will give me the desired hence calls a quick drying will work cell.

For pressing use split mould



100 000 lbs sqr inch — thus fines all be required

Great by screw press in Potts room on the 6th floor R wt to find pressure

For Bi cell add 15 times the amount of every impurity in KOH + NaOH or that comes out of Fe to A4 Bi cells if this dont work measure solubility of Bi OH 15 times in KOH as there is only 1/15th the amount of 21% particles as in little test cell

Small cell charge Reg discharge in Vacuo + Vice versa & better chg + dis in Vac to see what part gas plays

~~Try putting $SrSO_4$ $BaSO_4$ into argon by soaking in $SrCl_2$ & precip by Na_2SO_4 look up all records where I used this or to see how I used it~~

Try on tubes Bromate $SrBr_2$ Arsenate, Borate Phosphate Tellurate Selenate Antimonate Molybdate Tantalate Vanadate Carbonate Chromate, Uranate Wolfrabate Tungstate -- Vanadate

In little Cell try Carbon disulphide to saturation in the H_2S also in bulb

Make CS_2 Compound of the Metals are made in KOH, & put in tubes alone CS_2 is analogous of CO_2

see if can clean outside of old tubes (@ Fe_2O_3 scale by scouring & high density burnt in KOH. also try strong LiOH Bal as reducing power of alkali - high force & off electromotive as in Cleaning tube strip in plating.

Also Soak tubes + dry put H_2S salt in + then reverse in LiOH also KOH, to amalgamate the flake + loosen scale then wash + without weak acid to remove if.

for pressing small cell.
think Screw press like those
for boxes at Bergman ok
or a Reg press with spring
set to right pressure, see
Rodgers —

Still Kunsky ~~if he can give~~
Bergman any information
has dearers also 3 and 4 dial
has results —

It may be unplated Zn
pocket be better than
plated as no deposit
potential as with nickel

~~Mallory get U.S.P.A.~~
~~945917 - Cleaning~~
~~dust Cannot Relay~~
~~quickly~~

as persulphate of K is
the most insoluble
Salt make tube with
Sulphate K, only a
with H_2O — and as
such is used in
KOH it will calcine
by ox to persulphate
~~& possibly use~~
~~in battery~~

test in tubes the
Molybdates of the oxide
very little sol in KOH
also Tungstate, Vanadates
to see if get results
as with Fe_2SO_4

~~Mendocroft get Catalogue~~
~~of all makes of wind~~
~~mills & tools & articles with~~

Tusol K salts —

Tube filled only with flake
1 Dipotassium Sodium Cobaltinitrite
2nd KClo.
3rd Silicofluoride
4 phosphomolybdic
5 Palmer bismuth Thiocyanate

Make some finely divided Cerium by roll, Quesplitte Co or NaOH also iron Oxalate or Oxalate & reduced by H. also in bottom —

Mix a solvent of Menthane into Shellac so it will stick —

Rig up blower for Calomel on — Dally —

Dully or also ask Owa for Rosin dope Ele to take place Monday —

Add my Rosin to Menthan to make Lac stick —

Mendoncott gets all the world articles —

Go up see that wind with no orange

Electrically weld edge of disc to plate brass by the wheel

Help Feldstein in apparatus for making Fe electrolytely

See Dyer about weights of mercury now on collector

Start some Zee chart Expts with small cells down at freezing with different things in Solution 2 grams of each iodid per cell — To change critical point of diseding —

Look up in books the things that actually did good results like Br Say

Work these up by mixing Cobalt etc —

See about programs A10 A12 + B2 B4 Gutter —

See about dope on Cells Grant Rubber

See phone reports —

ask Banning about Rall regulator —

Take up cost reduction if can be accomplished new design — standard model 10 30 50 100 amp — + alt Mfg quickly —

Also what patents Green takes — also find infringement of other patents —

About high class map for pressing Rept to save over moulds

See Anderson — Cheap Desc = 1/8 location —

See of Muldstam Rects made when I was away have all been put up —

See Batteries are used to operate Linotype machines — [illegible]

Harry Reduce
50 Edison to 40 month

Spring in 4 stations the Nicolson Lock

See Bryce about Philpot taking up pressing Rept & Salary

Tell Owen about Tumpen opened to take place of ~~Wishard~~ Wernot

Plate was powder from a mixture of Iron & Zinc Sulphates. The Zinc in excess. This will in the tank when made Cathode in KOH dissolves the Zn & the well fall as powder

2 A4 ~~C~~ Use only
Mitter 2 cc —

Try for replace Neoviam

Common stearic acid
7c paraffine —
Stearic acid + soda-acid stearic
with flock & various
proportions Resin Neoprene
Stearine etc, use
Shellac dissolved in solvents
for the uncovers

Pattern Counter with an Electric
Iron of a Reelfy, flex
Conducto I

Lanthanum hydrox only in tube
more dumps
Ba Sulfato. more dumps
~~Try fluorium~~ c
~~Hexa~~ Neodymium
These 3 gives fair results in tube
Vary them also mix with
Graphite & try in pockets —
Ba SO4 1 V 43 1/2 V 47 Hal 33
50th Run —
Because try K per sulfate —

Results when tubes have following only no m

	IV	1/2	total
Neodimium	60	63	327
Lanthanum hydrox	53	60	327
Cerium Fluoride	0	0	631
Calcium Chromate	0	0	77 / 67
Cadmium "	0	0	40 / 37
Cerium molybdate	0	0	7 / 7
Cerium hydrox	0	0	10 / 10
Mercuric Chromate	80 / 67	113 / 100	20 / 127
Strontium Tungstate	30 / 30	37 / 37	23 / 23
Strontium Fluoride	30 / 30	37 / 37	23 / 23
Barium Sulphate	43	47	33
Strontium Molybdate	27 / 23	33 / 30	417 / 417
Mercuric "	60 / 37	70 / 43	417 / 420

See what Report 6120 – 663 to 970

Lac cylinder

Try 8 coats lac & well
Cooked on ends –

Try regular coats but 1st
Coat thinned down by alcohol

Try dropping lac alkali +
Coat

Put one thing coat of film dope
then lac coatings – if lac
doesn't stick to film, put
some cresylic acid or acetone
in lac sol –

Maxwell – do you need
Sunday letter – see
Oct 15 – Morning rec
of Sheets –

Try little Bi in Tin for
Dric Soldering

See if Tolva sol Lig/sol, also
get a good Salpeter Tolva tree
perhaps Acetone also
Coat rooms —

Try 1/2 doz 7 coats.
1 hour between well
Cooled on Edges —

Blue about me any
patterns on Laboratory Transformers

See if small cell pressure
tests made

See tests A & Tubes Endurance

Put up new Electro from
pockets

See Barrett get separate order
+ have him get weeks work of forms

See Monet — See Stevens in regard

See Beach if anything done at Allenhurst

See Coffin — show him what Beach doing

Have daily Smoke room unchanged
put on desk

Dyer Tuesday battery for England
+ French Monet trip — also
about Philpot —

See progress Daily of
Buzzer —

Ask Blue about Goldbach

Make some Cobalt by Chalva
Method like 72

See if Hold forms a Tuesday

Lower cell - press test
sample lost & also grass
Used only half load
weight 6.8 lb.

Have glass broken

Precipitate Various % of
Barium Sulfate with
Cobalt also Ni also
Mn Co also platinum
also Fe_2O_3. ditto with
Strontium Sulfate -
ditto Molybdate Sn -
" " Hg -
all the above with Bi as analyzed
Molybdenum reduced by H,
& used without Fe in
pocket -
Borates,

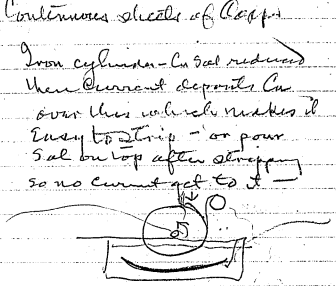
Try as Fe in pockets with
without 25% of Cu also Bi
the following antiprinter finely
divided -
Cerium - Mo Ur Cr Vanadium
WO Sb -
to see if reducing to prot.
in clay they will not go to
higher Ox do easily also Fe
goes from metal to FeO

Byron Wilson Elo How money
it do on clock - palsey
all disks after 6 months if
unused can be returned in payment
new records at reduction
of 10% = or say 5 cents
off from original price
plus this cents as penalty
for over ordering & not
insures 90% of Dealer -
Capital invested in
records -

Put Billy Bee salary right
see what he gets now —

Continuous electr of Copper

Iron cylinder - Cu Sol reduced
then current deposits Cu
over this which makes it
easy to strip - or pour
Sol on top after stripping
so no current get to it —



Write Nestor all
about Norfolk scheme

get Guy Miller Rainey
Costs of Lumsden now

See man who wants
buy Lumsden & clean
him to Norfolk idea —

get a Couple promoters
for Norfolk & Ken —

Gp

See Miller is started on
Nursing Rolls & things go
fast, see about Wells
grinding Mi504 & Sola
ask Clod Wilson how
fine it must be ground
also find what pans
are passing around
Rolls —
also pressing in pans

Bob about hydraulic
press for Mi pressing
get right heading out

Press Mountain hot in smooth moulds before lacquering

Use spray lacquer 3 hours hot bakowski epoxy lacquer 5 layers, then bake 48 hours & press

Write out ideas about Trusts, Captains of industry etc unfair trading —

Take some Reg Cement & heat yellow heat & reduce in H, & cool down in H, see how color is —

Try several Iodates or Bromates as periodate are peculiar compounds & hold O very strongly

Iodate Ba Sr Co Li K Na Zn Co Ni Al Mg Mn Cu rather idea is that endothermic O with cause formation of periodate, or higher — Di Ta Bromates —

Dyer Phlopot

Width = blowing and bad, makes bubbles Wesles Mechanical gelatine bottler see about it — also blown platinum & filtered liquid continuously filters or cloth to keep

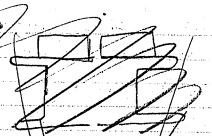
Anode mud and lupus

003

With also look at
Rough polishing
& Lead pressing
also Carburizing
& whole process
get Report of Meadows
made very recent
& he will clearly
report on my claim
Every Dec —

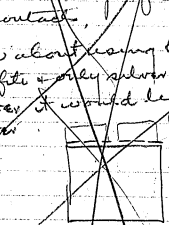
Bliss about trying
Mercury to make
contact with the
buzzer lever —
then can raise lever right
out — How about silver
facing clap & rubbing
How about pure graphite

also



its 4 to 6 times better than
hard Carbon graphite mix —
on contact.

How about using block
graphite & only silver piece on
lever it would lighten the
lever



See Smith

1 lbs N.O4 1/2 [illegible]
3 lbs Crystals of N.504 - 7H2O
13.7.03 NaOH [illegible]

see if Cerm. ox sent to Ra for reduction, tell him high temp must be used -

Wurth, plate a blank so we can put it on a backing that has been been pressed about Cracks + high solder + make plates to see if Cracks come on after mounting - Quick plated + then plated -

Moore, stiffen leather + slap a balance of coal + gem challes - Well challes - 2 gr of Lathe -

Dyer find out if [illegible] power at Wheaton or if we can get power from any alum. Cost of pulling in wires if not can we get a gas for a gas Engine 15 or 20 HP with accessories, see if OC or AC -

Dyer Could we get Harry Lauder for one song on the Kinetophone for press activity - it might appeal to him & help us both,

See if there is any porous substance semi-impermeable membrane or anything porous which lets gas thru but liquid - possibly a non water soluble porous sub like our brights wellsing but not Gly ROH but slightly let gas thru for Storing Butchering start some tests

Make a valve for A4 cell which pops after pressure is high but not high enough to bulge Can let gas off. Explosively, + see if Clean RCEb Comes out —

See Bachman Dolley rent trucks
Furnish up an old car rent,
#4, Day = How about the rent we did event
Wilkinson Lyddi —

Adopt 60/1000 Epoxy of 8
plates for standard 1/8 Tube
Cell or make also an C4

A4 closed bent pop
Valve rubber seat pop
at pressure not
Endangering Can

Workon hand —

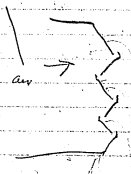
	Set 18 % done
Wagon	60
Byron Kinetos	90
Homeshavers	100
Desk phone	100
Disco	80
Little Cells	25
Art disc phone	50
Concrete Cabinet	90
Mfg F20	10
Mfg McCbs	80
Kinetophone	90
Kinetophone Record	
Weedmill	5
New 1/8 tube Cell	80
Big Submarine Cell	25
Bigelow Rockfiles	25
Colored Picture	2

Cold Burn Gilbrade
How not pour hence,
dangerous pressure
Discs!

First wrinkle of powder
blank & pressed must
be pulled off between
each powder blank
in warm room but
warmed discs in smaller
keep dust & heat from
falling on warmed —

Put up sheets of white
paper on dress table
for falling dust in warm
Room also where powder
records pressed —

See Water When
backing dry has to
clean —



Hot burnishing for powder plates
Chalk lines pressure then
Polishing off + backing —
2 or 3 coats lacquer very viscous
in powder first dust a chalk room up
or room along then very powder
then over that final lacquer
press.
Must make Model warmed plates
in room preceding

Try Expt of pressing a record blank
between polished plates before
use on record press [illegible]

Water to make 1/2 doz. Violence or wreck offensive to make measures from to improve technique —

Thinkt it possible of by a complete set of clint's our work around grooves from center to quite smooth contour & edge & can get out
should be smoked 1/3 of end as then by a regardless out to edge to allow air get into bellows can get
practically all air out

ask prof why blank stuff cant be made cheap crude
Crude Carbolic — also crude
Crude Asphalt or other
high mt. Crude cheap stuff —

Mix graphite with the powder (ie) graph on the organic so they would complete fuse & not make so porous blank or a low M.P. Resin —

Blanks for Wurth could be made with less paper fabric or only chalk probably

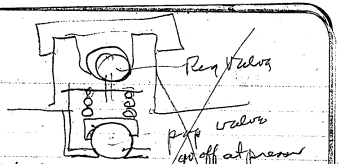
From cracking & breaking off surface it looks as if we didnt let blank heat long enough before pressing warm the slightest.
by Epts with lime —

Meadowcraft get primer & 2 & 4 + 5 Readers and all other Common School books also physic. Chemistry text books etc
Lowest to highest grade schools

Marshall Educat, Bysow
$2500,

Dyer doesn't effect hump
Comes decision left person
to dealer, they will
effect this

Bias-ply tires longer
more durable springs
on steel tired axles
wood on axle to slap
violent vibration in
Center —
What about wheel with
Hub mostly outside to
get steering knuckle near
Center to stop easy
knocking about 6 or 8 plys
Rubber Conveying belt
necessary at connection
to carriage in all shows
a good flexibility —



not big enough
Kettle gas drops out + leaks
Continually hence no bubbles
= down useless no engineering
the top valve prevents dropping
To make the work much
more good quicker + perfect
fuller slap think it OK

Be sure RA makes Iron
a self heater to reducing
Chamber by def. Iron a
small shot with small
rise temp on pot,

Add 1 oz of sulphide lead rod in 21 KOH + Bi —

powder up tellurium very fine & make a pocket of it & use on piece of Fe — also try in tube melted Nickel —

Try in tubes tellurate of Sr Ba & Calcium —

Mix little tellurium powder with Fe mix — also mix some telluric acid powder with Iron mix

Mix tellurate KOH with Nickel NiOH in tube form a very usual K salt near usual in KOH — might serve to keep KOH in NiOH₂

powder up very fine & try all the Tungsten bronzes that conduct in tubes of Gold

Try Iodide Thallium in tube usual KOH

Try Uranous hydrate in tube also dilute acetic & oxalic in black — also 1st Rund block 25% COOH, also with 25% Bismuth

also Uranous hydrate with Co Bi,

Vanadium ~~Comp~~ Oxide or acid Reduced at yellow white heat by H, & then self oxidized & use no Fe

Metal ammonia ~~of K~~ almost usual
we NOH, try in tube also with
CO & 21

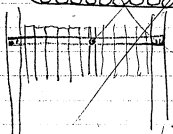
Low with
~~Boiling Sulphide K Ethylsulph~~
~~Sulphide Zn in Toluol not~~
~~hydrated = Cu sulfide in tube~~
~~Zn Sulphide is not solvent~~
~~acetic —~~

Boiling Telluride of Fe in
Toluol — also try
Telluride Zn —

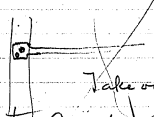
P.A. — Mix 5% of sulphates of
following with the Fe ferr
H get a Fe mix, Catalyzers
Cupric reduction of mixt
at a lower temp mixer
probably Easier we boiling
Co. Cd, Ni —

Make some flake with
Cobalt in it 10%

Zinch



instead of weaving coq strip
in put it on outside — 1 wt



Take one tube out
its too Crowded

Why not screen our wood pulp or blow it to get fines to Cosmo now — the very fine flour [illegible] for Minter How would lint (cotton) do for making bleaching

See the place they cost
Model dress for cleaning

See Warbox about burning gas out or anthracite in Ords pots — also Anthracite in Powerhouse — chemicos etc. dear Comaly

See Phelps at Dyno
Have you Come over
help on gelly balls
Case dieby talks
over notes above

Mendocino not
find Hartung at
Scientific American for
Moving machine for
schools Barnum

Mount Dress & Chief Engineer
the Loader pressed for
powder & Chge moulds

Talk of Miller abt
asbestos pkg on pots

Costs Talent 127.55
Orchestra & Bands average $31
Vocal Solos, Duets, Quartettes, including
Orchestra 174.00

Philpot, describe for Legal dept the process of his - Claim a defect material Gelatin The P/P & Record & other details, -

Legal dept also little Cage & Valve complaint pressure & leak breaking the Gelatin - also clamps Valves so one drink drop in Cage - also new stops across 1/8 tube plates -

Experiment on Engine & Intake Cage when Graph & pressure to keep Electrolyte in

After working new plunger for dice powder & ok, Henkin go down to Slake & get stops & Clamps & clamp to equip them a spring plunger -

Put that w/a Electric Vibrator by Electrical on test -

Gelatin Graft & cerade - & re produce Gelatin - present method only forms black oxide on Cerade -

Work some of Gelatin 860-861-sec of it gas Two pieces -

Goldstein make several
batches of N.O.H by rolls
heavy loading cut
+ dry 1/4 1/2 1 1 1/2
also such cutters + various
shapes: get grain surface
to see if get clean rolls
quicker drying —

Rogers to furnish us
Box of (what tells short)
for rag work —

G. Miller see Roberts packing
on pots at shop works
Why not use as Reducing
pots —

See Philpots report
+ have U. use gas heat
test + breakdown
Cold test — also use
Reamer for Philpot —

See if patented turning
master plated disc + backing
with Diamond — also take
out patent for use brass
also peened brass or hydraulic
+ method of fastening

Pictent powder head
" blank + coating with
spraying —

Put the Adjst in for
men with small Capital —

Rent in Summer fan outfit
with battery —

Dzobofe small rowboat with
Motor + SB —

Model Tray - porcelain legs where no objection to Weights. —

Education = Lidgerdam
Tricks chosen & described
Explained in picture —
Smoke Rings —
Kaleidoscope —
parts of beak - Sulom
Pump etc —

~~Do credit~~

E Frederick Hawley
in the Bandit at Proctors
Oct 25. fine actor for
picture film —

Rig up Outdoor Lighting
Exhibit Temporary ~~[illegible]~~
lowering - use small rooms &
say at office in 5 Betting —
+ show at night —

Take up with Harry
Buchman The Dundee
Trg - + abt Sodam Eq Truck

When well we get A12 —

Remember 1/2 dozen small
Cell. tape

B See about obtaining right
away the broadcast records
put them all in bath.
At Moors get ready —

Tray for holding blank
letter Dacquoing & with
bridges

get some Zinc powder load ~~tube~~
Rocket + test in 5% KOH,
with Ni Tube, — the 5% being
Saturated with Zinc
also a tube with Zinc
powder + flakes with Ni tube

Gold deposit, make some
Meta Vanadate of K — made KOH
dilts with 20% Co hydrox mixed
dilts " 25% Pb " "

Mix some Tellur powder with
Fe mix make rocket

See if Boy put up the
Electric Fr by alcohol

Make figures on setting for the
Agts, for all sizes ~~[illegible]~~ + House
Working plans. Dep. put in
with me, etc. put it up to
Phow boys

See Minot about Chal
Daimler Bunsen Reels
Arle — Fr

Put somebody to work on
Stromberg 40 30 + 20.
with Victor clock work,
might necessary get a Victor 15 Phonograph

Prepare Advt Schools 2 or
3 men wt.

Try Equipt. cleaning surface
with Compressed air
+ also brushes, Velvet, sponges
+ flocked chalk

Design rack held moved
plates + also blanks

See about preparing head
for powder blanks

go overseas Cabinet Bldg

See what patent application I have applied for further patent, mechanical details. Float cement finish screw pieces in the cement for ceiling work — painting — Manipulating

Try Expt Electric attracting of dust, Lath, —

Dyer affidavits, unfair competition, Rehearings, Affidavits

Bordman — How we can diminish output without increasing cost too much of Gallery

Jim Raymond about renting Gallery

Smith Try a few cell see how Valve takes care of foaming —

Perhaps Haine & Co would take up renting of Gallery

Also we might rent a man at work + rent from Storage Battery works — + deliver — 5 year per A4 cell for rent — 25c KWH @ 25 cent delivery by wagon within Certain Zone, —

Dyer — Malabar Count man out of Vic

Deck for unfair competition suits, damages for last 2 years affidavits from owners to whom they sold —

See about Newton men coming up & start painting —

Put some Acetone in the Lac Varnish & dissolve some Nitrocellulose Look up my previous note book & get the solvents for Nitro cellulose & Shellac

found a solvent for Nitrocellulose is a solvent for Some Resin etc to give 1st Coat & then follow with my Lac Coats —

Get Victor #15 Stoneless

Take Care of HQ at Dope factory

See that the ~~Pt~~ received & allowed to OK Thompson Sales to set up 2 with & 2 without Hg

Listen to Reg regards Walker Miller picked out for men no disc.

Thursday 2 pm Call Meadows ~~& make~~ no appointments —

Make plaster Paris moulds with Cotton fibre & shellac them & press after drying

Blue = Black and Blue
print exact phases a
shape of Crack Crack
& if necessary a sketch
of Cracker panel No 2
Trouble —

Take out patent on details
Kettle delivery wagon
which could further
Advertised
Get several patents
Process of setting press

Get 2 or 3 of our Catalogue
Mark Gough etc's hand
head — & also bring
one Catalogue to Hopeson
for Memory —

Take up personally
pressure gauges for flue

Patent furniture devices —

It may be req cells should
have either a great preponderance
of Fe or the other way to make
B1 work or it may be that
dissolved O or O make an little
when nearly chg that cause
free H to combine & make
Contrary EMF as against
cause that cell.

Goldsin plates Zn & Fe
together take out cornish
& let it ~~[illegible]~~ act on
HOH,

Have Crate Cells 6
brought to Lab
Chgd + Dis to see can
allow use doors

~~See Blas + arrange with the artist to break in new. Operator not familiar and he can't work the machine. Arrange for furnish draftsman for mechanical assembly details —~~

~~Arrange Gumbel furnish a Bureau rep from time to time to Copy out with condensation. Make public exhibits of Concrete formulas at Gumbel's —~~

Using Cutting in Trays

Jeffery	13400
Vaughn + Co	180
Arthur Scott Co	420
Macy	1080
Frank Forsert Co	594
A Graham & Sons	600
US Ex	1381
Gumbel	720
Adams Ex Indianapolis	1320
" Wabash	1260
Washington	2240
NY	3180
Phila	2154
Barron, Pirie, Scott Co	1380
Another Pangot Company NY	1832
	19200

~~Tell Wurth Lowe no more Master Tell us get our technique right~~

Don't forget the Adv't for
magazines, Electric photos &
Catalogs —

Walter Miller —
Cypress Lake = running in
Wyl — Marguerite Sylvia Sings
in it —

Bachman Halfcan

Take up matter of
Cans 2 or 3" higher
for A4 6 8 10 12
to hold more water
also double Can 1/4
dope between.

How about PWA
Condensate rubber
for Cans —

Put up one grid 4 tubes 1/8"
with 7½ in angle Camp
loading machine —

Bee as neither Dennison
or Kelly are getting many
orders why not dismantle
them off on houses —

Put strips on Reg 1 made
like A4 photo & see how
many separators can be
dispensed with —

House light 4, crowder to
all architects —
all wiring forms —

Tell Weber about
Grating Concrete Cabinet
I want to see it Saturday

Rendsome of the Iron
by Dry wall process to
RA to be reduced in H
Cooler & Nitrogen passes

Goldstein, Wake
2 or 3 lbs iron from
Sulphate prepd Rocks
for RA to be reduced by
H & Nitrogen —
to be reduced at
def temperatures —

RA = powder iron very
fine & reduce by H & Nitrogen

See Affinity about the
powder & if O is shown
how to do it —

Asbell with & Aspen of Chy
dont want assistant
using men in lab who asks no

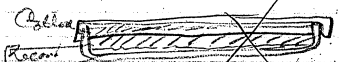
asbqwa how to go getting
on with Crocoal —
ditto, Rosin cheap Manilla
Resin mixed of phenol
resin —

Aiken my Rosin & paper
see how a disk works
work — also try some
with Bangles & also
Zinc white — if looks ok
transfer press record &
then replace second time

Patent process for making
Newly devised Nonpyrophoric
Metals by reducing in H
& displacing the H —
Zinc Lead Tin Copper, Iron
Cobalt Cadmium, Bismuth
Mo — making the oxides
by Roll & dry process
Cooling down & displacing
H by inert gas

C W Hunt Co 45 Broadway
advertising Casino Electric
Locomotives; find some one
to see them

Wilson, buy high grade
Japanese shoe (how would
it do to use a paper
box for each



also Albums - 12 in album
books form —
got up Elaquently
that for 1 dollar records
use for 1½ 2 & higher
prices =

See White Thompson
stay box back on doc.
for head light price idea
go for it — offer a
Cent for report

Holland - just a while
look at the plates, the
plates & the assembly
see that there is no
changes that crop
up that might hurt baby

Suggest to Walker, Weller

Hull & Mellow
tension about 1 or 1½ oz

Speak Wilson Dobbs &c
McCleary about art
Catalogue for our hut &
get up much finer than Vic
& also a Common one —
also a programme (general)
for Minutes at houses
where we demonstrate before
model Co — These should be
Especially fine as few will
be required & only with
the 50 much — These
a fine Catalogue to impress
the dealers & press men

Ask Ott about the
Zn Cu Sulphide Cell

Ask Petit if he cuts
of his rubber bag so
smooth may have
lead surface & produce
lead places in record

See Blinn about small
Reelf —

Ask Goldstein where
the Earth Sulphides
mixed with Co & Bi
are, ought to be ready
by this time —

Chrysler & Kip Cray
and suppose Mr Byllesby
& Benjamin as well do the
Cam & Clay Tabrod —

Ask Bee if he is selling
any more mining drags

See How Bulletin
getting along —

Bee What is our new
House lighting man
doing —

Arrange for going ahead
with mining Lamps
Get Catalogues Goodson
House Lighting Oil fellow
do Accaylene —
Write Islands Mfg —
Bee — Get full information
Fairbanks Morse & Co
Engines for Lighting
what work they might
these people —

Corbin — take auto
go out around out now
big houses Highland
around here —

Talk to Goodson about
our phone men
looking up house
Lighting to save
Expenses —

Carlen going to that
you have not told me
of the new showing at
Silver Lake on little truck
room

Building Truck Cranes —
Elec Record Nov

Hulch write Shedd
Elec Co Electric Suction
Vac Cleaner for Catalogue
Elec Record Nov — p 270
use Cutting Isolated
Houses also Catalogue
of all the Vacuum Cleaners
Lots ads in Elec Record
for Nov — also Catalogue
Electric Irons also get
Toasting & Coffee Urn Dealers
Washing Mac Catalogues

Write Crowden for all
Catalogue Engines makers of
Tricycles —

Send for Philpot & find out what he is doing —

See what Patel is doing —

find out from Nicoala if he is using Munch Loader in Chrome plant if so its going to be very expensive —

Drum cutter from Clock Room —

ask Harry Lafer & Truman Glen Rudge & Rent room now yet

Arrange for new Camera Man for Nats — but Tomorrow The debate of making Morning picture —

Arrange with pulp craft work tomorrow night & sleep my house if necessary

When gets the Lake Copy completed of Cement proposed Contract & show Stevens —

Write Harry about arrangement made with Monhat —

When gets the Lake I have to go out to Olsen Barrett —

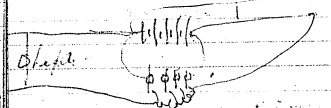
Arrange 20 Smith employees for 20 per week to help out

Who are officers of Bat Co

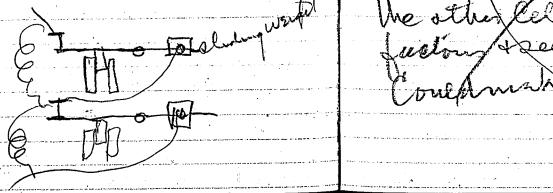
Take Dress out Monday NY

Bliss

Why cannot a personal feeds regulator be made with 10 small solenoids each equipped with a weight on lever to close & open Rheostatic, & put them around the battery —



set for say 30 V. if falling to 36 V. 100 amp current goes thru solenoids and 1 ohm are will be drawn closed open sections of rheostat in line — thus take place of Carbons



there should be Cost over 50 ea pieces — at 5 for 10 — all put together on one board

~~Lighting Force Engs grab on carbolyte lamp Volume~~

Kitchen Light high grade Horse Carriages small cell & 1 CP Lamps —

~~Wilson taking with the other Celluloids factory & see how many Conformans blanks~~

Decide on move for London + Paris — Fox

See Hilah & Fox for Cell forwarding in London & Paris —

Have magnetic Surveys out ready for Brown Friday night —

G V Miller to bring reg mix tp - Thom def nitrates —

5206

Lemnox

See Holland about Fox for Expert at London + Paris —

Get Salvarsan for Condemnation Lucquin —

G W W about Salvarsan Condemnation Lucquin —

Edwards Coarse on Condemnation Lucquin —

What is price Bengal probably least it for Condemnation Lucquin Alone if OK —

Hilah = Corfield refs re Amer Nov 15 P 40
Cut Cooking Breakfast by wire funeral house before Culdesac

Already see page 7/19-50
Jul physical Chem Nov 1911
Library - Stop adding a
Chloride Nacl to Make
Nacl chlorine make anode
efficiency go up from 12%
to 94% = in other words if
we get good clake we can
Cut down adding so much
Ni Sol & lower Current & use
anodes up better —

Abt signing up
for 8 yrs Course if at all -
Cost Guarding them & to
protect us — Schools —

Get ready now for
200 Spring Ice Meeting,
to quote off at when ready

Holland
Take drop on field
brushes, wiring - battery
Mg underpass on Eagle
Rock Hill / H

Holland put away in
Block Room - plates Mg & Fe
also tubes of carbon, for
End 2 months make up
A & Tool - clean 2 months
more do same —
Take 2 cells added on
our unsolipped lot
Run Curves, see that
they are OK —

Have no Policy made for
Valley Voltage Regulation

See Ballard Elk if can get more space at bottom of A4 A6 9 between we have more in A8 10 & 12 find out,

See Man came to house last night wanted you price him on at $12.00 work selling batteries & Motorcycle Dynamo – 1/2 hp – 1½ doubt can to know anything about the boy –

Death in ch about the crippled waste, who was it spoke to me

See Wilson & Bull Crating Cement Anchorage

Have philpot make 3 of Brichman Trip to compare quality with same on Cumberland –

Get some one started on Cabinet machines Vic Clockwork & cheaper age $30, Cheapest.

Chrysler cover dip tray in Benzine Bolter & dry it well before putting on Istrolcalifornia – its ok on Metal but wood must be dried out Probably can dip parts before assembling

go over to Gonzales Cabinet place

See Wurth & the press

Meet Mussa ~~Jacob tonight~~ Monday =

See Goodwin find what he did at Eve Pond he's a mine. Sent the professional Score written in Mg =

Tell Walter about coming Graf what getting Dalmat

Ask Smith to find out how quick can voltage gear by slowly balling after change for 3 to 4 sec to take some 100 amps from 24 A up — in House lighting could do this after stopping & balling get ok for the night

Bless Whats matter having small dynamo to chg battery in dry time on Auto & always keep battery chg not using 19 Hours at night Now small & charge can't the work

See Bea & Bob about packing Benjamin Lubin in Saldered Tin box so they wont not shift & packing dry so dont rust,

Bless what's matter Shaft Motor — with ⊙⊙ + jiggle

See Beckman & the office about Billing stuff to Wonnat in France do not mention nickel but bill for accumulators

Write Graf about Patti —

Mary Anderson —

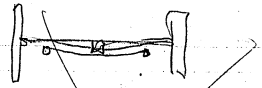
Dress — Sylvia Barnhardt.

Henry E. Dixy
549 W 113.
NY

Clifford Cutler gold
assay the go need
& float & tailings

Smith Prog up to
Changes: debating 12 hours
an A & Cell at 212
Fahr

Anderson to write
an introduction and
disc Catalogue —



Spring recoprocation & dictaphone
rods

See W Miller — Dr Colinin —
Quick —

Suggest Hulah — we make a
sound record of noises of
Cannon for Navy so they
can look at the vibration
they might find something
Now — try a pistol
then Rifle — as a sample

Barrere, 1st flute of the
NY Symphony Orch
best piece Serenade in
Mozart, E flat by
See Thomas

[illegible]

Mallory Jones Jos Weller
Days Cement is used very
Extensively in [illegible] Africa
that only about one or
2 allow is used there
was engineers for Edison
[illegible]
got a price of [illegible] than he
could buy at Island
in Porto Rico —
What's Mallory with us
yellow are Expensive to handle

John Turner is big dealer at
Dan Jones is agt for Pillsbury
flour Slaudchaker in wagon &c

Get composers work entirely for
the phonograph new pieces & copyright

See J P C Clarke Slaudsand Oil
for advice on selling near for
music

Legal Dept Jones - Record at dealers
Complete on barrel record. +
Combine this with Future -
2nd [illegible] above -

See Phelps at Kearns —
Drayne have made new reg
reflector with flying — dollo
new phenograph with horn for
Model O — phenomenal — also
New arm to go on cable machine

Bee have reg log for
Inspectors report on guarantee
Gallery. Every report of Care is
to be recorded + inspector is
to call attention only when it
is very bad + do it in a tactful
way = LEE report these
log reports all finished for
any future departures —
also note rotten + leaking
floor + wash
Gallery cleaner offen
+ wiping pillows etc
print the sheets + heads
Mac sign them —

get home Dolly Gazzoni Records
Crowley to see me twice
a week —

No 11505 —
Akahi Hoi — Clark Mulley

(King Kalakaua)
Vocal — Toots Pakaia Hawaiian
get score —

put up some new now
pyro now + try it
Cly Vultage at Cold
Capacity —

20 Monck plates
wanted right off —

RA = think Nitric acid treatment of Redox will remove Sulfides & the water will remove sulphates
Tell Goldstein to do them on Roll stuff.
Also Goldstein write to Hull and some roll Tyzo & Co
remove water & then redo Nitric

Blue Chuts & Diamond Grading Gallery - run with belt & shift belt round belt.

Aitken - press Lacquered blank in press mg stamp - after its hardened in oven then remove hat & let it warp - then tape up with diamond replacing, trimmer & in take backed
Record & remove hat -
see if it warps again

Longite, Mr Wood
Liebmann - Mr Fallen
36 Forrest St
Broadway Hy - Brown
write them wording them over
A. Bourquandez
Goldman about it
They forward our billing

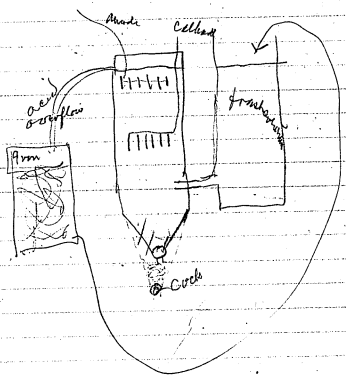
Take up wind proof
Gallery Boys Good Vehicle
also J V Engr - know
walking about E Gallery
never tried find out
Gallery boy hat wind proof
Green

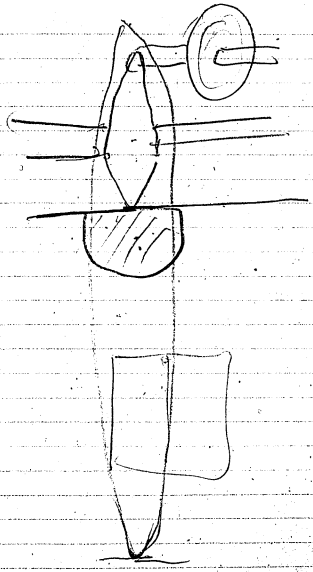
Follow up Wilson on Turning
Daphne

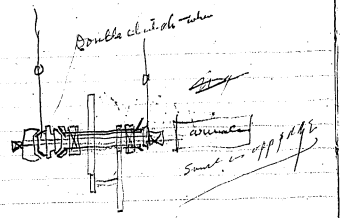
See Blue about new
Knobscope,

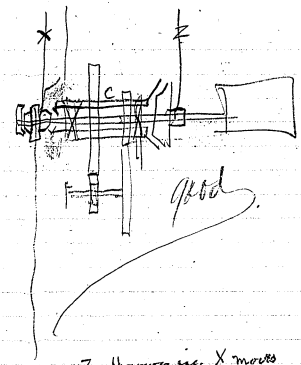
See Bliss about equalizing
Relay & Sounder —
Use Carbon points on
each of permeable —
not carbon on Sounder
use Knife switch for
Microscopic work.

Daily — after removing Iron
By washing & Magnet
Pass Sulphuric acid
gas warm to reduce
the Basic Ferric to ferrous
which makes SO_2 acid
H_2SO_4 which reduces
Iron to Metal, &
then Gold dissolves
purity —

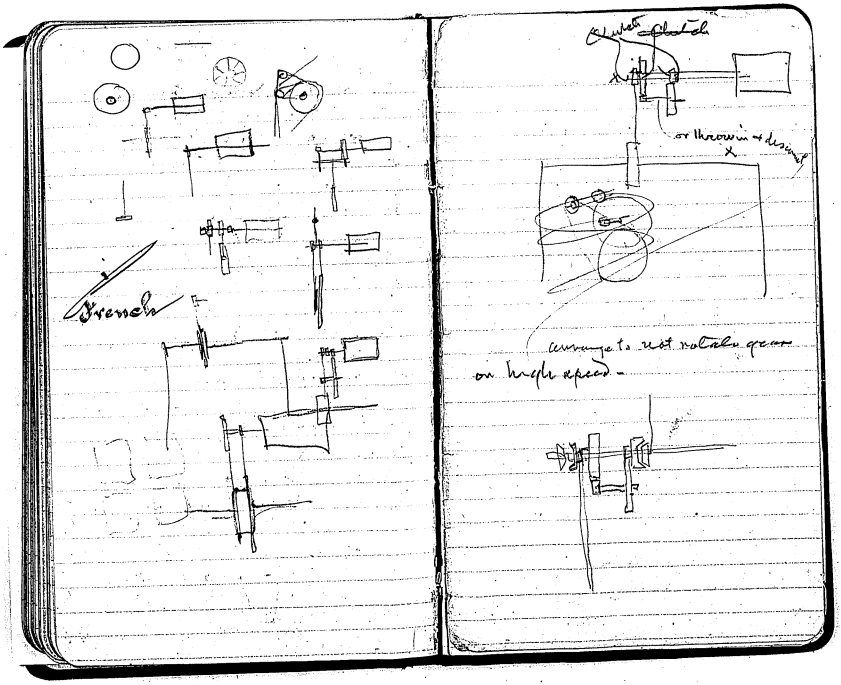

Anode
Cathode
Arm
Cock







Z thrown in X moves
Clutch to C.


French
Clutch
or throwing out
arrangets not rotates gears
on high speed -

Uses for Battery

1 = Street cars,
2 Locomotives - Main RR, Shops, Mines etc
3 Lighting Railway Trains
4. Switchmen Lanterns
5 Switch Signal Lights,
6 Car Inspector Lights
7 Working Magnets of Railway signals etc
8 Lighting Autos
9 Substitute for Dry batteries for Autos
10 " " " gas Engines
11 Replace Manganese battery in telephones
12 For bell signals - door bells,
13 Miners Lamps
14 Police Lamps
15 Gun Sighting Lamps
16 Lighting Isolated houses
17 Windmills
18 Lighting Yachts
19 Driving Small yachts
20 " " Pleasure Fishing boats
21 Mine Locomotives
22 Submarines -
23 Trucks
24 Taxis Cabs
25 = Pleasure vehicles
26 Lighting Workshops Gunners
27 Telephone Centrals Stations
28 For night Lights Clocks etc
29 = Audiphone, Acoustic aids etc
30 Klaxons
31 Laboratories in Colleges etc
32 Lighting Aeroplanes
33 Telegraph offices
34 Lighting houses
35 Firing blasting in Quarries
36. Lighting Quarries -
37 Burglar Alarms
38 Electric Drills -
39 accumulator for very small water power
40 Storing for tidal power
41 " " wave power
42 Running short Recess ferries, boat,
43 - Transporting power for special uses
- building operations, Hospital lighting
44. Fire Engines -
45 Small Torpedoes (for propelling)
46 = For night Lights in Shops, or extra work where they have their own plant

48 = In small town where there is a factory with power can store in battery & sell light at night - flow factory shut down -

49 = Utilizing power of Canal locks

50 = Electric ploughs, reading machines, mowing machines

51 - Electric Lawn mowers -

52 = Railway inspection Cars

53 = Wheels dipping in rap. Current rivers or tidal movements to store power for small lighting etc.

54 - Storing power from Solar Engines

55 - Small windmill on large sailing vessel + battery for lighting + wireless. Distilling water + cooking etc - or mounted windwheels a water wheel on boat + use motion of boat, or an air compressor device to get power from motion of waves -

56 = Ancillary + for all night in Equatorial planets, + for large amount of power for short time, impossible with Regular Engine.

57. average for large water power at £60 per KWH + depreciation of 10%. This is only £6. per KWH per year whereas Sliemens Station has over £6. for interest alone without depreciation or cost to from French Alps to Paris. battery at Paris, 14 hours which would cost, with battery all utilized -

58 auxilliary to running horse

59- for Auto Piano players.

60 Sewing Machines —

61 Street Sprinklers
62 Street Sweepers
63 Working Vacuum Cleaners
64 Thermostat regulator
65 Running Linotype Machine
67 Running Motorcycles —
68 Dock & other Liquid trucks —
69- Electric Welding

1/16 x 4 times surface

625
624
3125
1250
37500
3906 20

625
351
625

3125
1875
21937 5

16
314
219
2 0 4
3 5 0 4
3 4 8

887 | 4

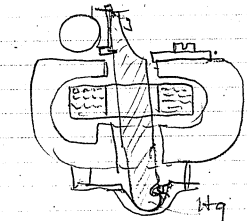
425
425
2125
850
1700
1506 25

39062
18062
21000
250
315
125 0
250
750
8875 0

21000

3

44
63
72
125
30
58
116
513
5
25 65
321
5
1605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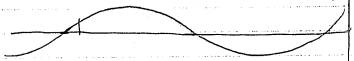
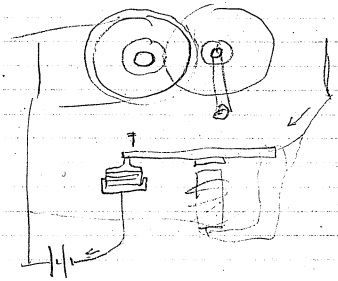
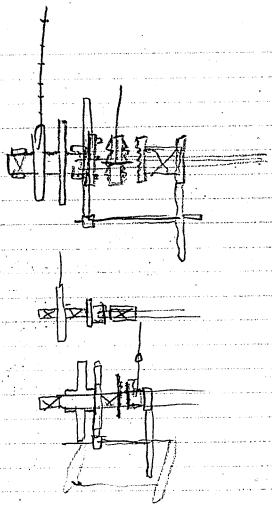
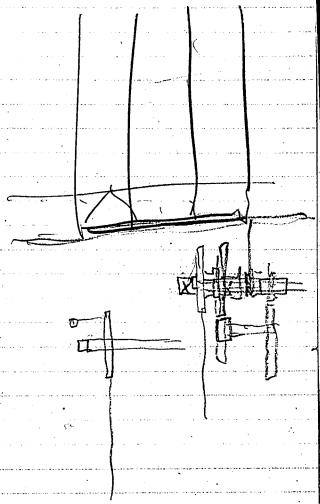
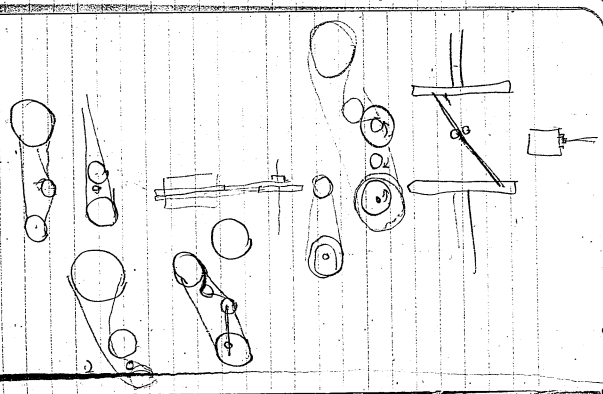


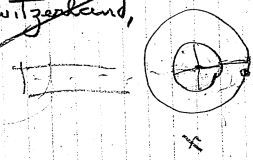


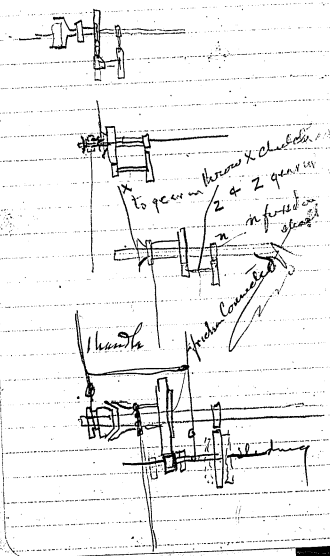






~~When can Oscar obtain his vacation~~
~~Suggest he hires a car and join us in Switzerland,~~

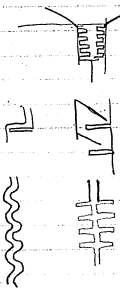



to gear on screw X checks
Z & Z gears
n
n fixed on sleeve
Handle
Arches Connected

John F Monnot

31 Rue Dam

Paris



Paris to Lanfranco Nurnberg

15	139
26	77
30	226
31	157
25	53
51	32
18	135
85	156
45	137
129	1211
68	
39	
35	
19	
128	
76	
140	
184	
124	
34	
42	
71	
37	
39	
1421	

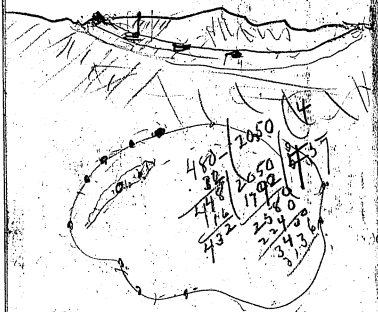
1421
12 11
2631
3 3
3 1 3
5 1644

B-22

58

75
60
0

75
70
5



76-

75
95
375
525
25

437
432
874
1311
1748
188784

1790
41
179
1760
7339

303.
333.7
3

2980
110

1790
739
2529
120
5058
2529
25294

2980
112
5960
2980
2980
2337

Notebook, PN-Undated.19

This undated pocket notebook was probably used by Edison during the early 1900s. Included are notes about two chemical experiments, one involving rosin oil and lime and the other glycerine and other compounds. Also included are a drawing and some miscellaneous calculations. The cover is stamped "Memorandum." The pages are unnumbered. Only 9 pages have been used.

full infrtn Hgr Room Oil
& Lubricants. Jnl Chem Soc
Vol XXVI pp 504 & 5 &
1175 —

Room oil 75 @ 96 %
Hydrocarbons — says
Can also dme till etc
Solid —

~~Oxidize glyc~~

Carbonize glycerine in
Caustic Soda
phosphoric acid
Chloride Zinc Sulphide K
Castor oil
Linseed oil,
Sulphuric acid
Strong Boric acid
Boiling Sulphur.
Wash + powder well,

The oxidize each sample
by HCl $KClO_3$ – boiling
H_2SO_4 – Chromic acid
hot, Chromic acid + H_2SO_4
permanganate K + HCl, dilt,
H_2SO_4 – Ferric Chloride,
Nitric acid – Caustic Soda

Make at least 2 oz of
Each + give them a fair trial,

Get 6" Evap dish to
do it in - + use good
Sand bath + Rose burner

Perhaps boiling the Carbon
from glycerine with Sulphur
I will get a Sulphur Compound
with Carbon -

marrittell
B b Mann

3360 | 20000 (6,
20160

32
5
27

3360

2400

1246
27
8722
2492
33642

100 lb

12
20
240

1246
32
2492
4738
6872

2240
5
150 | 11200 (12.46
750
3700
3000
7000
1000

1246
32
2492
3738
39872

39 lb
4000

16
28
30
14
5 12
6
36
10
4)64
16 6

30
30
5
14
19
16

93

11
6
5)66
121

49
80
3920

24
80
192

3.6)100(30

30

240
30
7200
5
36000

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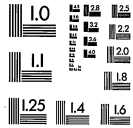

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